

INDIAN UNIVERSITIES COMMISSION.

UNIVERSITY OF BOMBAY.

PART I.

ABSTRACT OF EVIDENCE.



CALCUTTA :
OFFICE OF THE SUPERINTENDENT OF GOVERNMENT PRINTING, INDIA.
1902.

WITNESS No. 1.—MR. F. G. SELBY, Principal of the Deccan College,
Poona. (Examined at Poona.)

Looking at the way in which the colleges are scattered all over the country, the scheme for a teaching University does not seem to be feasible. The work of teaching must be done in the colleges themselves. It would be a mistake for Government to pay for professors for University teaching; much more good would be done by using any available funds of Government to strengthen the colleges already existing. The University professors could only teach to one set of students in one place, they could not go round the country.

Were an endowment for a professor offered to the University, instead of being used for a professor whose work it is to teach, it ought to be used for a professor whose business is research in some oriental subject. There is very little inducement for scholars in this country to devote their lives to the work of scholarship, and Indian professors in colleges are few and badly paid. In especial, the University should confer professorships upon native students of distinction in different classes of oriental learning.

The want of books of oriental scholarship is much felt. A professor lecturing on philosophy who wished to draw an Indian parallel, or a professor seeking information on any point connected with Indian literature, would be at a loss to find any work which he could consult. If oriental professorships are provided, it will be an inducement to Indian scholars to publish books of this sort which will be of great benefit to the country. The University professors may also lecture, but their lectures should not form part of the compulsory course.

It would be a very good thing if the University could make itself responsible for the qualifications of the teachers in affiliated colleges. There would be no objection from the college point of view. A college has just been started in the Native State of Junagad, and probably the University knows little about the qualifications of the men who are teaching there. There is no necessity to keep a list, because there are no teachers outside the affiliated colleges. The University must judge the qualifications by the criteria of degrees and honours. In Government Colleges a professor must have a first class honour's degree at Oxford or Cambridge or some equivalent degree. The rule has been rigidly enforced for the last 25 years. Acting vacancies are a difficulty, and some very unsatisfactory appointments have been made. A new rule has been introduced by which, when an English Professor goes home for a year, an English graduate with proper qualifications is brought out to fill his place. Native assistant professors might be utilized in Professorships of Sanskrit, Science and Mathematics, but for English Literature, Philosophy and Political Economy, it is more satisfactory to bring out men from home.

The pay and leave rules of the Indian Educational service are most liberal. In the Provincial service the pay is much too low and the best men will not therefore enter for it. The Provincial service professors cannot rise above Rs 250 a month. The Revenue Department offers much better prospects.

Sanskrit teachers are usually men who have been headmasters of High Schools. The teaching of Sanskrit is a matter of the highest importance. It is always taught through the medium of English, except in so far as the *Shastras* are concerned, for which lectures are given in the vernacular or Sanskrit. Everything should be done to attract the best English Scholars to this line. With the same qualification an Indian would be preferable to a European Scholar.

The Senate.

The constitution, rather than the size of the Senate, is at fault.

There should be *ex-officio* representation of more persons concerned in education. Heads of colleges and all professors of two years' standing, possessing good qualifications, should be in the Senate. There is only one second grade college in the Bombay Presidency and the introduction of such colleges would be a great misfortune. It is also important that there should be a large proportion of men who have distinguished themselves as graduates in English Universities. At present a large portion of the Senate do not know what a

University means. Things are argued on absurd grounds and subjects introduced with which the University has no concern. For instance, the teaching of agriculture. Another instance of the need of more educationalists is that the Senate take it upon themselves to discuss books, *e.g.*, whether Hegel or Aristotle should be read in the philosophy course.

Speaking generally, the following changes in the constitution of the Senate are needed :—

- (1) there should be a larger number of English graduates ;
- (2) there should be a strong element of men actually engaged in teaching in the colleges ; and
- (3) outsiders should be persons who have distinguished themselves and shown general interest in education.

All Government Professors should be considered qualified to sit in the Senate, and professors in aided colleges should be considered qualified, provided they possess the same qualifications as holders of similar chairs in Government Colleges.

It is difficult to suggest a satisfactory means of transition from the old to the new Senate. Very few appointments might be made for a number of years, or the more drastic measure might be introduced of abolishing the present Senate by legislation. The proposal to remove a portion of the fellows to an honorary list would depend for its efficiency on its acceptance by the fellows. A considerable number would probably accept, and the rest might be allowed gradually to disappear. Terminable fellowships would be an improvement, (1) because of the tendency of the English element to vary and (2) because it would afford a good way of removing a man who does not take an interest in his work.

It would not be advisable to make the Senate an elective body for the purpose of appointing a certain proportion of its members. To apply the attendance test to the present Senate would cause undesirable senators to attend. The rule might be introduced into a reformed Senate to keep the members up to the mark. The test might be made much more rigid for people in Bombay than anywhere else, and more rigid for people in Poona than for those in Sindh. It should not be difficult in the reformed Senate to secure the appointment of any person whom it was thought desirable to have on the Senate. There would be a certain number of *ex officio* fellows. Government would make a certain number of appointments and a certain number of fellows would be elected. It would be well to have a certain number of the Senate elected by graduates from among themselves. The electors and the elected to be graduates of ten years' standing, or in the case of graduates possessing the M.A. degree of seven years' standing. The elected body should not be more than one-third of the whole.

Witness has not been a member of the Syndicate and knows the University better through its effect on the colleges.

The Syndicate.

Speaking generally, the Syndicate gives satisfaction, but some complaints have been made with regard to their selection of books. The composition of the Syndicate ought to be more professional than at present. The Vice-Chancellor ought to be *ex-officio* President, and the Director of Public Instruction, Vice-President. Then if twelve be taken as the number of the Syndicate, four members should be heads of colleges, three professors, and the remaining three elected by the Senate. The principals should be appointed by rotation and should hold office for four years. Professors should be deputed by the colleges in turn. Thus constituted the Senate would be quite competent to deal with general question. The head of a college should be a man of general views, and the scheme allows for three elected fellows.

It is desirable that some of the Syndics should be Indians' because of their better understanding of the character of the students. But the above scheme does not exclude Indians. The three members of the Syndicate to be elected by the Senate would probably be Indians. Some Indian professors would also be selected by the colleges.

So far as Poona is concerned, it would not be necessary to pay the expenses of fellows attending a meeting of the Syndicate. It would be necessary in the case of members from Karachi.

From the point of view of colleges, it is very important that there should be Boards of Studies. The Boards of Studies should be appointed very carefully from men who are really students and scholars. The need for the great care is due to the importance of the selection of books. At present books are selected by the Syndicate and referred to the Senate. The arrangement is very unsatisfactory. One instance of bad work is the difference in the standard of difficulty in the books set from year to year in the intermediate examination. One year one of the text-books may be Burke's French Revolution, an extremely difficult book, though no doubt an excellent book. The next year this is taken off, and the text-book may be Johnson's Lives of the Poets. This is no doubt a very fascinating book, but it is absurd to suppose that it is the equivalent of Burke's French Revolution. Again there is now in the Deccan College a student reading for his B. A. degree a book which he passed in his intermediate examination. It is monstrous to put a book on for the intermediate examination, let one year pass by, and then put the same book on for the degree examination. Again Bacon's "Advancement of Learning" is a book which is very often put on. Obviously it is a book which should be read as a whole, but, to make a change, the Syndicate one year took off the first book and left the second book only; worse still, the next year, the second book was cut in the middle and only half prescribed together with a play of Shakespeare.

The Boards of Studies might also recommend curricula, but their main function should be to see that text-books are properly prescribed. If there were a properly constituted Senate, there would be no harm in bringing before it the curriculum selected by the Board and approved by the Faculties. In such a Senate members would have the good sense not to vote on subjects they knew nothing about.

In the memorandum of points for consideration under the heading "University Teaching," the expression "Mental and Moral Science" is used. For this should be substituted the words "Philosophy and Logic." The expression "Mental and Moral Science" is too narrow, as it excludes the study of the great systems of Philosophy.

Boys come up to the University with very little knowledge of English, not enough to enable them to understand the lectures. Nothing is to be gained by keeping boys longer at school, as the progress they make under an English teacher in college is enormously greater than at school. English in the schools is wrongly taught. The students can parse and analyse, but cannot read intelligently. After he has attended English lectures in a college for a month, he is already much better. The best plan would probably be to have a year's school teaching of English at college.

If poetry were more studied in schools, it might be an improvement. But what is wanted is to teach the boys to read a book in such a way as to get an intelligent idea of what it contains. The Matriculation standard of English ought to be raised. A Hindu boy does not know nearly as much English as an English boy in the corresponding form knows of Latin.

The boys cannot understand what is said to them at first, but this difficulty soon disappears. It is largely due to the fact that boys are taught by Indians who may have had little or no acquaintance with Englishman. The average school master also puts things in a particular way, and when the same things are put in a different way, the boys cannot understand.

In order to improve the Matriculation no certificate should be given to a boy who passes, unless he agrees to join a college. If no value were to be attached to the Matriculation except that a boy who passes would be able to join a college, the number of those who go up for it would be much reduced, and schoolmasters would be able to prepare boys more thoroughly. One great reason why a schoolmaster is not free to teach a boy properly in this country is because, in many cases, the parents bring pressure to bear upon him to promote a boy who is unfit, by threatening to withdraw him from the school. The matriculation ought to be solely for candidates about to enter the

University; the University should have nothing to do with the grant of a passport into Government service. The Government ought to decide what form of examination they require for entry into the public service, and should arrange for it themselves, leaving the University to the sole function of encouraging liberal education. The University should withdraw from the management of the school final examination. That examination has been discredited, and the worst boys go up for it. It is not possible to make one examination serve the two purposes of University education and the test for Government employment, except in so far as a University degree shows that a man has been well educated and is therefore the sort of person whom the Government want.

To a certain extent the cram habit acquired at school continues at college, but in most cases the boys will listen to advice.

Another evil is the number of annotated text-books of an inferior description which students cram up. A well-annotated text-book which is sufficient in itself to enable the students to understand the work and its grammar and language is useful, inasmuch as it enables the lecturer to leave those matters and to talk to the students about the subjects arising out of the book. Some of the students will be content to cram the notes, but the best will listen to the lectures.

In the Deccan College there are no arrangements for teaching Latin and Greek, and students who want to take up these subjects must study them privately. They are advised to go to St. Xavier's College in Bombay. In the Elphinstone College the English Professor teaches Latin.

When the question of a four years' course came up in Bombay, witness proposed that there should be one examination at the end of the first eighteen months, and that after two-and-a-half years' further study students should be allowed to go up for their degree. This was objected to by Mr. Wordsworth who said that if there was no examination for eighteen months a boy would waste the first twelve, and that it would be better to have one examination at the end of twelve months and a second at the end of the second year. In this way the Previous and Intermediate examination system came into force. It will be best to retain the previous examination, because it is necessary at present to carry on school education for the first college year and the previous is simply a higher school examination. A college examination would not be so strong an incentive to work as a University examination conducted by men who will take an outside and impartial view of the student's work.

The B.A. Course is, on the whole, a very good one, but it is doubtful whether all the voluntary subjects are really equivalent. Mathematics and Logic give a better and more severe test than the Literature examination.

In this country it is most desirable to have Logic and Moral Philosophy as a necessary part of the higher training of all students. These subjects are an excellent discipline for the mind, particularly in India, where as soon as a boy comes out of college he enters into a political and social world, in which he is assailed by all sorts of theories and ideas.

Many students choose Literature for the B.A. and Languages for the M.A., because these are much easier than Logic and Philosophy. It would not be desirable altogether to abolish the subject of Languages and Literature, but they ought to be made more difficult. At present they are not equivalent to any of the other subjects. In the literature examination philosophical should be substituted for merely literary works.

Law should be excluded from the B.A. curriculum. It is not encouraged in the Deccan College. There is a law class teaching up to the first part of the law examination in Poona.

The History for the B.A. is really a farce. Meredith's History of the Roman Empire is prescribed, and the eight volumes of that work are boiled down into one volume the size of one's hand.

There should not be specialization for the B.A., and a specialized honours course would be a great mistake. A man cannot specialize with advantage until he has received a liberal education. An M.A. in language only would not seem to be an adequate training.

Honours Course.

The natives of India would have no objection to the comparative study of religion, but the Christian Missionaries would probably dislike having the Christian religion critically discussed.

Theology.

The present system wants a great deal of change. As a general rule, our examinations do not quite command the confidence they ought to do; one great reason for this is that the examinations are conducted by persons who are engaged in teaching in colleges, and sometimes the professors have to examine their own pupils. This is due to the choice of examiners being limited. The field of choice might be enlarged in several directions.

Conduct of Examinations.

Appointment of Examiners.

In the first place the M.A. examiners in Literature and Arts, including Mathematics, might be appointed in England. The number of candidates is small and the papers might, without inconvenience, be set by distinguished graduates in England to whom the answer papers would be forwarded for examination. This plan need involve no departure from the present standard. The same object could not be so well secured by appointing professors in one Presidency to examine for another Presidency, because the standards in different Universities are so different that the examiner would not know what to adopt. To level up the standard would be well, but there might be a danger of levelling down. There is at present considerable variation in the standards of examination. In years gone by, the results of examinations used to tally more than they do now with the opinion formed in colleges, that is, the men who were best in college came out best in the University examinations. There seems to be in the present day a kind of instruction given to examiners to make examinations rather easy, for instance in Mathematics, enough book work is set for a boy to pass in it alone.

A second method of widening the field of choice would be to appoint examiners from among the junior members of the Civil Service. For several years past, men have come out in the Civil Service who have graduated with honours. Amongst them the Syndicate might find some persons qualified to be examiners, and they might ask the Government to place them on special duty for the purpose of the examinations. They could not carry on the examination work side by side with their other duties. The Syndicate ought not on the other hand to appoint barristers, for they are too busy. Again the Directors of Public Instruction in the various Provinces might supply the Syndicate with a list of their men qualified to be examiners, and the Syndicate might draw upon these lists when necessary.

It would also be an improvement if the Syndicate were to find out who are competent examiners, instead of inviting applications. Many really good men will not apply for examinerships, although they would accept them, if offered.

A defect of the present system is that opportunity is not given to an examiner to know what each of the candidates has done in the other subjects. It is not an examination but a series of examinations. The examiners do not even know the results of the examination until they are published. The effect of this sometimes is that if a student happens to get a large number of marks in one subject, he is enabled to get a place of honour in the list of successful candidates, however poor a figure he may have cut in other subjects. The work of every candidate in all the subjects should be placed before the whole body of examiners for their collective opinion. A change in this direction is very necessary.

Decision by the whole Board of Examiners.

Oral Examinations.

An Oral test should form part of every examination, and in the degree examinations it should not be confined to the text-books. The examination ought to be conducted as at home, where candidates come up before representatives of the whole Board, and any examiner may ask any questions he pleases. At

present what is done is to pick out one English book and the candidate is examined on that and nothing else. The object of an oral examination is to find out how much a candidate really knows.

Legal men should not be appointed examiners, because they have not time enough to do justice to the examinations. If he leaves the Court or his chambers, the examiner may lose a great many cases. The same reason applies to some extent to doctors, but they have to be employed as examiners in professional and science subjects.

Of late the Senate has been very lax in the matter of affiliation and has given affiliation to anybody who takes the trouble to ask for it. It is extremely desirable that the University should enquire from time to time with regard to the condition and efficiency of a new college. They ought to send a competent person to inspect. It is not necessary to have special Inspectors, members of the Syndicate would perform the duty. If the college is in a satisfactory state, it would have no objection to being inspected. Under present conditions it has happened that an applicant after receiving permission has not even started the affiliated college.

The University should extend its enquiry to see whether provision is made for the physical and moral welfare of students. That is almost as important in this country as the educational part of the supervision. At present the University has no direct means of enquiry. Every college whose funds permit should have a hostel. As far as Poona is concerned, there is nothing in the way of unhealthy competition between the colleges, such as one college trying to attract students from another. There is no feeling of jealousy between the colleges here, and boys often pass from one to another.

In Government Colleges the fees are fixed by Government: in Aided Colleges they are not regulated at all. A college trying by improper means to attract students away from another institution should be disaffiliated.

It is very important that the staff should reside in the college. The residence of witness is next door to the college, and he is endeavouring to cause arrangements to be made to provide residential quarters for the staff.

The following are the principal ways in which professors can mix with and influence their students: (1) Games. This makes it desirable to have several young English professors. (2) The management of the Gymkhana. (3) College debating and other societies. At the Deccan College the difficulty is the distance at which the professors reside.

The tone of the pupils is good and their conduct satisfactory. Healthy occupations tend to raise the tone.

In a letter dated the 27th February, Mr. Selby raised two points which he had omitted to mention in his examination—

- (1) Some limit should be put on the time within which a man can obtain a class in a University examination. It is presumed that men who are classed together start fair in the race. But there is nothing to prevent a man of ten years' standing competing with one who has gone straight through the course.
- (2) It has been suggested that teaching might be centralised for the M. A. Course. It would be difficult to arrange this where colleges are residential. Only fellows can, as a rule, afford to read for the M. A. degree. Mr. Selby would not allow his *Dakhina* fellows to go elsewhere, as their presence in college is an essential part of the scheme of college discipline.

WITNESS No. 2.—MR. F. L. SPOTT, C.E., Principal of the College of Science, Poona. (Examined at Poona.)

The witness observed that he had not been an educational officer for long. He is an officer of the Public Works Department who has for two years been Principal of the college.

It would not be practicable for the University to take over the teaching in the College of Science. The work of the college is more of a practical than a theoretical character, the practical side would deteriorate under University management.

Witness agreed with Mr. Selby that the field of choice of examiners should be large, and that the Syndicate should seek out the best men and issue invitations instead of calling for applications. For the last two years, the examiners in engineering have been the witness, two professors of the college and two non-educational Public Works officers. The latter are too professional, and have forgotten much of the theoretical side of the work. The Syndicate might make a better selection.

Generally speaking, the course of studies laid down in the University syllabus is a good one, but there are several respects in which it should be changed :

- (1) There is no relation between Physics generally and the mathematical portion, *i.e.*, Statics and Dynamics. Students are started in the laboratory work of mechanics without having studied it mathematically and cannot therefore understand their work.
- (2) Much of the Physics taught is unnecessary ; *e.g.*, in sound an ordinary engineer does not want to know about musical tones.
- (3) In the course on light, there is nothing about the working of instruments, such as the telescope, and that is just what engineers want to know.
- (4) The mathematical course is sufficient, except that there should be some higher work. For instance, the calculus is not studied at all.

The course in agriculture was prepared some years ago by the Agricultural Chemist with the Government of India, the witness, and a Professor in a Bombay College. It is on the whole a good course.

If it were desired to alter the engineering course, it would be necessary to go to the Syndicate and the matter would be referred in the end to the non-expert Senate. Witness explained that he did not mean that the Senate would refuse to amend the course. The college is not represented in the Syndicate, but the engineering faculty is represented by two members.

The Licentiate of Civil Engineering at Bombay corresponds to the Bachelor of Engineering at Calcutta. The two never come into contact. There would not be any practical advantage if students were given the degree of Bachelor of Civil Engineering, instead of Licentiate of Engineering. There is no prejudice against the term "Licentiate." There are a number of Bengali students in the college who are satisfied with the Licentiate of Civil Engineering.

The college is very deficient in boarding arrangements. It is most desirable that such arrangements should be made in the interests of both the teaching and the moral and physical welfare of the students.

Professors all try to influence their students out of college hours, but it is only practicable in the case of those who go in for physical exercise.

WITNESS No. 3.—DR. A. W. THOMSON, C.E., Professor of Civil Engineering, College of Science, Poona. (Examined at Poona.)

As far as the College of Science is concerned, it has everything that could be given by a Teaching University. The syllabus is laid down by the University, and it makes it a little less elastic than it would be if everything were in the hands of the College authorities. That is perhaps an advantage. If the College has any suggestions to make, the Syndicate is always ready to listen to it and to make any alterations that may be proposed. From witness' experience as a

teacher in Japan, England and Scotland, he considers that in the matter of teaching and holding examinations the system observed in the Bombay University is the same in general as that which prevails elsewhere. The examiners are well chosen, partly from the College staff and partly from outsiders. The staff supplies the constant element and the outsiders give confidence to the public. The degrees and certificates given represent high qualifications and correspond with those given in England and Scotland. The whole atmosphere round the students is not, however, of so practical a kind as at home. So far as the teaching is concerned, it is on a level with what is done elsewhere, and some of the work in the College of Science is equal to the best that could be got anywhere.

An institution should have the privilege of affiliating itself with any University it desires to. If there is any

Sphere of Influence.

reason why a Bombay institution should wish to be affiliated, say, to Calcutta, there is no objection to its doing so, even though the reason may be that the foreign course is easier. There should not be any hard-and-fast rules requiring an institution in Bombay to be affiliated with the University of Bombay and not with any other University.

Witness has been a Fellow of the University for the last ten years and has not been able to attend as many meetings as he would have liked. He has to lose

Constitution of Senate.

one or two days' work whenever he goes to a meeting. Sometimes meetings are adjourned without finishing the agenda, and that makes it very hard to attend. It is quite possible that in some cases resident members have purposely spoken at great length in order to postpone a meeting to a date when they might have things to themselves.

When an institution is affiliated to a University, the University ought to see that a proper standard of teaching apparatus is kept up, and that can only

University Inspection.

be secured by inspection.

About ten years ago the standard of admission to the College of Science was raised from the Matriculation to the Previous examinations, and that was the greatest blessing the College has ever had. It ensures that the students know English sufficiently well to understand what is said to them. It would

Entrance Standard and Course.

be a great advantage if to the three years' course of teaching now required for the L.C.E., there were added a fourth year to be spent on some engineering works. The examination would then be held at the end of this fourth year. This system is followed in the University of Tokio. The L.C.E. course at Poona was framed on the model of the Dublin University. The B.E. is a higher degree than the L.C.E. If it is proposed to alter the name, the standard of studies should also be raised.

Residence.

The question of residential quarters for professors and students is a very important one.

WITNESS NO. 4.—DR. R. G. BHANDARKAR, C.I.E.

The witness read a statement which is reproduced in the printed volume.*

* Paper No. 1 in Part II.

At the conclusion of the reading he made the following remarks in reply to questions :—

The main point is that educational opinion should predominate in the government of the University : that is not at present the case. All the details of

Constitution of the Senate and Syndicate.

the plan suggested by witness are not essential : it is an endeavour to include all classes of institutions. The Inspectors of Schools should be on the Senate, not on the Syndicate. The Principal of the Elphinstone College is especially included in the list of Syndics, because it is the greatest and oldest of the Bombay Colleges. It has the most cherished traditions, and it also has foundations.

The system of teaching Sanskrit is good : all depends on the nature of teachers and examiners. Complaints have been made for the last 25 years that the examination is too stiff, but the number of candidates has not diminished. It would be a pity to lower the standard. There are no celebrated seats of ancient learning in the Bombay Presidency. At Satara there is a school for Sanskrit learning, where pandits teach, and there is a similar school at Poona which is aided by Government. No titles are given, but all the students are called *Shastris*, and the appellation is always respected. There are eight or ten pupils at Satara, and their teaching according to the old method goes deep. Two or three pupils have studied deeply at Poona. The system cultivates a keen, logical, subtle intellect, but not large, comprehensive views. The subtlety also is apt to be confined to the particular subject, and not to be general or practical. Sanskrit ought to be taught by men acquainted with European literature and thought. A first class M.A. of the Bombay University would be competent to teach, provided he possessed the critical faculty. In proof that this is not always the case, witness remarked that a writer of a University essay said that the Ramayana was older than the Mahabharata, because Rama flourished in the Tirta age and the Pandavas in the Dwapara. No European, or indeed any scholar, would accept such reasoning.

WITNESS NO. 5—MR. R. P. PARANJPE, Principal of the Fergusson College, Poona.

The witness read a statement which is reproduced in the printed volume. He made the following remarks in reply to questions :—

A very large endowment would be needed for University Professors for a post-graduate course. They would be useful for the advancement of knowledge, but would have few pupils. A peripatetic Professor could only supplement College teaching. Attendance at the University lectures should not be compulsory. If the examinations are hard enough, the students will be obliged to attend the lectures.

There would be no objection to the submission of the names of teachers to the University, but the University will have less means of knowing their efficiency than the College authorities. Colleges would not employ inferior teachers for the sake of cheapness. Colleges run for purposes of gain might do so.

A boy is fit to be taught through the medium of English when he can read a novel easily. The right time would perhaps be in the present high school standard when the boy is about 14. Boys are now taught history in English in the 4th Standard—it merely means another hour's English instruction. There should be hours fixed in which English must be spoken, as in French classes in England. Students are at present very weak in English when they enter College. The schools do not stimulate the desire to read, and reading out of school hours is rare.

The Matriculation should be harder than at present, almost as hard as the Intermediate, and the B.A. should be taken after a three years' course. The Matriculation Standard should be specially high in English. Two or three years should be added to the school course, and boys should not be allowed to matriculate until they are 18, or 17 at the earliest. Much of the present previous and intermediate study is merely school work. There is also much learning of unnecessary technicalities, a general knowledge in most subjects is all that is required.

The standard for the B.A. should be as high as a low first class at Cambridge. Now a B.A. has not so much knowledge of Mathematics as a good student when he comes up to Cambridge. The Bombay mathematical course is not merely so advanced as the course at Calcutta, and yet there have been no first class graduates for a long time. The language standard is so easy that

there are 60 M.A.s in that subject, against 10 in all the others. Even a third class B.A. can sometimes succeed in getting an M. A. in languages. There are far too many subjects. Specialization is very important.

The number of examinations does interfere with the health of students.

Overwork.

They study too hard immediately before the examinations. If a student would work four hours a day in addition to his lectures it would be enough. At the Fergusson College some students do seven or eight hours private study. That is quite unnecessary. The reason is often that the boys try to make up for previous idleness by a spurt. They often fall ill just before the examination.

WITNESS No. 6—The Hon'ble Mr. Justice E. T. CANDY, Vice-Chancellor of the Bombay University.

The witness was examined on a written statement which is reproduced in the printed volume.*

* Paper No. 3 in Part II.

For some time to come there can be no great change in the present working of the Bombay University. To begin with, the University cannot very well teach outside of Bombay.

Teaching University.

A commencement may perhaps be made in teaching for the M.A. and Science degrees. It would be desirable for the sake of laboratories, etc., to centralise Science teaching. It might be centralised at Bombay or at the Poona College of Science. Witness believes that there is not any one college at present having a full equipment of appliances.

If students come to Bombay for the higher teaching their residence would be provided for in the same way as at present. The facilities for residence in colleges are very limited. They ought certainly to be increased. The limited residence provided in the Elphinstone and Wilson Colleges is very much appreciated by the students. Attendance at University lectures should be made compulsory just as attendance at college lectures.

There would be some difficulty in recognising teachers after the manner of the London University. For instance,

Recognised Teachers.

what facilities has the Syndicate of the Bombay University for judging of the capabilities of a teacher whom the Principal of the Wilson College may get out from home? Hitherto we have never interfered with the colleges which constitute the University as regards their teaching staff. They make their own arrangements and it is naturally to their advantage to get the best professors and teachers they can. There need, however, be no objection to the qualifications of a teacher being submitted to the University. The affiliation rules give the University the power to say at any time that the staff is not as it was when the institution was affiliated and must be brought up to the proper standard. No cases have occurred in which it has been necessary to exercise this power. There have been one or two mushroom colleges, but they soon died a natural death. The Junagad College has lately been affiliated and it is possible that its staff may deteriorate. The difficulty in the case of qualifications would arise not so much in the case of private colleges as in the case of Government colleges, because if Government appoints anybody, the Syndicate could hardly interfere. There would also be difficulty in the case of private colleges. It would seem equally impertinent to go either to the Elphinstone or Wilson College and ask for the qualifications of the staff.

The present number of the Senate should be reduced to 130 members according to the list in the statement. The transition might be effected by an Act

The Senate.

repealing the old Act of Incorporation, and empowering the Government to remove the present Fellows to an Honorary list. The opinion generally held is that the present state of things is very unsatisfactory, and that a remedy would be welcome. The Senate has been reduced from 333 to 295 within the last four years, but the process of gradual reduction by following certain principles in making fresh appointments would be too slow. If there is a sentiment in favour of retaining the present Act of Incorporation and avoiding a break with the

past, then the new Act should be drawn up in such a way as to respect this feeling.

Fellowships should be vacated by non-attendance at meetings. This rule cannot, however, be employed with equal rigidity in all cases. A member of the Sind College residing at Karachi could not be expected to attend as regularly as a person who lives in Bombay or Poona. Further, to meet this difficulty there should be fewer meetings of the Senate in the year, and if possible they should be at fixed dates, so that arrangements could be made beforehand to attend them. The Senate should not meet, as it does now very often, to get through 20 minutes formal work; such work should be left to the Syndicate. Mofussil officers are not likely to want meetings on holidays any more than Madras members, so that it does not seem probable that there would be any conflict of wishes on this point. The complaint has been made that members not residing in Bombay come to the Senate and that the meeting is adjourned for a week or more. There are only 17 elected members of the Senate, so that it is difficult to say whether they are more or less suitable persons than the nominated Fellows. The proper proportion of nominated and elected Fellows in the Senate is a matter for very careful consideration about which the witness would not express an opinion. The absolute total number of the Senate should be fixed and vacancies caused by nominated or elected Fellows should be filled by others of the same class.

Fellowships should be granted for life, but a Fellow who is absent from India for more than certain time should vacate his Fellowship, and the vacancy should be filled up.

The present number, 14, should either be increased or reduced. It is too

The Syndicate.

large for the convenient and prompt circulation of papers, and not large enough for the formation of sub-committees to whom executive duties might be delegated. The number should be reduced to 7 or 9 or raised to 20. The Madras system of adding other Fellows to sub-committees of the Syndicate appears to be sound. Members of the Syndicate should be residents either of Bombay or Poona; this is a geographical necessity. A man could hardly be expected to come all the way from Karachi at least once a month. Karachi might have a representative living in Bombay. If possible, the Principal of every constituent college, Government, aided and belonging to Native States, should be *ex-officio* a member of the Syndicate, not because there is any conflict of interest between the Bombay and mofussil colleges, but because the Principals of the colleges are the most competent persons to govern the University, and because it is desirable to bring the colleges into closer touch with the University. If this would make the number too great, then the colleges should be represented in rotation, say 6 at a time. Even under existing arrangements a certain number of college professors are on the Syndicate. For instance, the Principal of the Elphinstone College has been for some years on the Syndicate, also a professor of St. Xavier's College. Until Dr. Mackichan went home we had his help, and we also have the help of Mr. Naegamwalla. It is very desirable to have men of administrative capacity and business knowledge on the Syndicate, but it is difficult to find such men with the leisure and inclination.

Mr. Justice Chandarvakar remarked that in the past more help of this nature used to be given to the Syndicate than it gets at present.

The Syndicate should do much of the administrative business of the University which has now to be brought up before the Senate, especially formal business. For instance, a candidate for a degree must go through a certain course of instruction. Suppose he fails to keep two days in one of his terms, the Syndicate must recommend to the Senate that he may be considered to have kept the full term. That is a matter which might well be left to the Syndicate. Speaking generally, legislative power should be in the hands of the Senate and executive power in the hands of the Syndicate. With a reformed Senate and Syndicate no check would be needed on the Syndicate. The Syndicate would exercise the power of exemption no better nor worse than the Senate. The question whether the Senate should have the power of vetoing any action of the Syndicate, is one of administrative detail.

There should be a Board for appointing examiners. The system of inviting applications for examiners is bad, and the marvel is that so few mistakes

Appointment of Examiners. have been made. It is quite possible that, as Mr. Selby says, competent men will not submit to the procedure of applying for the post of examiners. If there were a permanent Board for the appointment of examiners it would be their duty to find out who were competent examiners. Some examiners might be appointed from England.

The disadvantage of appointing a Fellow to more than one Faculty is that it gives him more than one vote. In the case of a lawyer competent to advise on questions of general culture, one might choose in which Faculty he would be of most use, or he could be put into two Faculties, with power to vote only in one of them. The Faculties should not settle their own curricula, that should be left to a Board composed almost entirely of experts. The work is now done by a small sub-committee of the Syndicate. The real work of the University should be done by Boards to be elected by the Faculties, and merely Honorary Fellows should be kept out of the Faculties.

Faculties. The certificates granted by Head Masters of schools should be of fitness as well as of attendance. Granting that it is difficult for Head Masters to withhold certificates, the fitness certificate would do something to keep back the unprepared.

Certificates. At present the University has no means of exercising a supervision over colleges. Indirectly, however, the Syndicate knows the condition of colleges. With the existing Senate, the Principal or governing Committee of a college would resent any member of the Syndicate claiming the right to overhaul the institution. With a reformed Senate if the University could find the means of supervising colleges that would be a different thing. If the existence of anything wrong in a college be brought to notice the University has the power under the rules of satisfying itself as to the course of instruction that is being given in that college. If the University were not satisfied that the staff and course of instruction are good, it would be bound to take some means of finding out, either by deputing members of the Syndicate or asking outsiders to inspect the college. Under present conditions such an inspection would not be made unless there were reason to suspect that something was wrong. Whether regular inspection would be advisable depends on the means available and the nature of the person deputed. He would require to be specially qualified. It is difficult to imagine a case when regular inspection would be needed unless it be that of a distant college over which indirect supervision could not be maintained. If the efficiency of a college were seriously to deteriorate there are many ways in which the fact would be brought home to the Syndicate and then they could take steps to satisfy themselves as to its condition.

The system of hostels has made great progress during the past few years. New quarters are being built in the Elphinstone College.

Hostels. After reading an extract from his note on the subject the witness said :

Study of vernaculars. It is quite likely that vernaculars have not the same educational value as classical languages, but the matter must also be looked upon from the point of view of what knowledge of the vernaculars is possessed by educated Indians. In many cases they have no proper knowledge. Probably Sanskrit is a better training than Marathi, but is it the intention that the vernaculars should gradually fall into disuse and be spoken only by the agriculturists, or are they to be retained as the language of the Courts and for the use of educated men ? If the latter is the case, then boys leaving school or entering the University should be able to read and write their vernacular correctly. The young men of the present day cannot do so. In a few decades the languages will disappear.

The President remarked that the argument against the collegiate study of the vernaculars had been put in the following form : to teach the vernacular of the

people is not to give a liberal education, whilst to teach a Sanskritised language is not to foster a knowledge of the pure vernacular. The witness replied that there is no real dilemma; the boy may learn both classical and vernacular languages, but he should by all means acquire such a knowledge of the latter as to be able if he comes into Court to read a vernacular document. The complaint of Sanskritising refers specially to Gujerati and not so much to Marathi. The language to be taught should be not the colloquial dialect of a hill tribe but the vernacular as spoken by an educated business man.

The Honourable Syed Hussein Bilgrami put the question whether English boys who are trained in Latin, Greek, etc., and not in their own language feel any difficulty in writing or speaking good English. The witness sent the following reply in writing:—"The want of early training in English was felt to be a defect in England, and now boys are trained in English at home and at preparatory schools before they enter public schools. Further, take the boys of 40 or 50 years ago: though they had no early systematic training in English, there was *no competition* between their own vernacular and another vernacular. If the English boy is at school in France or Germany there is the chance of his not being well trained in English. Here in India, English is becoming the *lingua franca* of the continent. If a boy is not well trained in his own vernacular by the time he is 16, the chances are that he will never be able to speak or write it correctly. There is a tendency increasing every day for English to push out the vernacular. The Indian boy does not, like the English boy, read every day books in his own vernacular. The English boy does his work all day and every day in his own vernacular: the Indian boy pursues his studies at far too early an age in a strange language, and every day that he grows older his vernacular is pushed further into the background."

The witness having read his remarks on the small competition existing for such scholarships the Rev. Dr. Mackichan remarked that it must be partly due to the age limit imposed, and that only a precocious student could graduate in time to get the scholarship. Mr. Hewett said that the age limit was not a hard and fast rule and that a student for the North-Western Provinces had recently been sent home overage.

The question of one or two examinations was much discussed in the Senate. The outcome of full deliberation. The question is one for those who come into close contact with the students and it would be wisest to rely on the opinion of Principals and Professors on the subject.

There are at present no recognised schools. It is very desirable that the system of recognition should be introduced.

A boy of 12 years of age is certainly not fit for college life, and it would be well to fix the entrance age at 16. An upward limit might also be fixed or students might be prohibited from going up for the Entrance Examination more than three or four times.

WITNESS No. 7—Sir BALCHANDRA KRISHNA, Kt.

* Paper No. 4 in Part II.

The witness was examined on a written statement from which he read extracts.*

The number should be limited to 150 and Fellowships should be terminable. Unless they are made terminable the number will again increase. It would be difficult to prevent its increasing by stopping appointments when the maximum is reached because that would create dissatisfaction. Honorary Fellowships should be given to persons of distinction. The reduction in the number should be by gradual transition, not by a clean sweep. A 50 per cent. non-attendance test should be applied even to persons living at a distance from Bombay. There are nine or ten meetings in the year, and every one could arrange to be present at half of them.

The Senate.

The method of election has worked well, but the actual teaching element should receive greater representation. The election should be left to the Faculties, but they should be required to elect from certain classes.

The Syndicate.

The invitation system is bad and demoralising. Examinerships should be offered to competent persons and not given to persons who apply for them.

Examiners.

The standard of the preliminary and subsequent examinations should be raised and the degree of M.B. given instead of L.M.S. The standard is now lower in Bombay than in London. It should be raised throughout on the London model. There should be independent examinations, but they should follow the London standard. Latin is useful for medical students, but need not be made compulsory unless the London standard is adopted. There should be a special Entrance Examination like that for London. This would be preferable to adopting the Previous or Intermediate Examination, for one thing because it would save time to the student. But if this proposal is not feasible, then the Previous Examination may be adopted as the entrance test. The course should be lengthened by one year. Unless the student matriculates unusually early he will not get his degree too young. The Matriculation English is sufficient. One defect is that students from the mofussil cannot follow the lectures because they are not accustomed to hear Englishmen speak. Medical Graduates have a sufficient knowledge of English to enable them to write out research results and the like.

Medical Course.

The witness read an extract complaining of the method of appointing professors from the officers of the Indian Medical Service. In reply to questions the witness said : Transfers are made from chair to chair according to the exigencies of the services : men are removed for purely departmental reasons. Tutors are not promoted to be professors. The University should exercise the same supervision over the Medical as over other Colleges.

Personnel of the Grant Medical College.

After reading an extract as to evil effects of the University Course on the constitution of the students the witness said in reply to Mr. Justice Chandravakar that he had not tested the accuracy of Mr. Justice Ranade's statistics—that he relied mainly on his own personal knowledge. Careless habits of life may account in part for the early mortality among graduates, but it is in great measure due to loss of vigour, consumption and brain fever caused by over-study. Out of 100 witness believed that 5 or 6 die within a year and others drag on 8 or 10 years. The entire blame cannot be laid on the University, but the strain is so great that many constitutions cannot bear it. It does not follow that examination by compartments would engender idleness and cause boys to cram up their subject shortly before the examination. In some cases this result might occur. Over-study is due partly to bad methods, but partly also to the severity of the course. Witness had not studied the subject sufficiently to say whether any improvement in physique has resulted from the increased facilities for active exercise. The intensity of the examination strain in India is greater than elsewhere. Some subject should be deleted from the pass course and an honours course introduced. The system of examination by compartments would enable more candidates to pass, but it would not prevent discrimination between the better and less well trained minds.

Principal effects of University Course.

WITNESS No. 8—Mr. M. MACMILLAN, Principal of the Elphinstone College.

Cram is the great canker of education. Indian education is accused of being a sham chiefly on account of the great prevalence of cram in the Universities, and the accusation is largely justified. The evil of cram is more especially rampant in India for three distinct reasons. First, the wonderful power of memory and the defective originality of Indian students; second, the fact that all subjects have to be learnt in a foreign language of which few of the students can obtain a complete mastery, so that they

Cause of Cramming.

find it safer in order to pass an examination to learn off by heart pages of printed books with notes dictated by professors, than to express their own ideas in their own words; third, the character of the examinations. Of these three causes the Universities cannot attempt to remove the first two causes. They cannot at any rate attempt to diminish the memories of Indian students, although they may perhaps encourage originality; and the subjects must continue to be learnt in English. Therefore the Universities must direct all their efforts to operating by means of the third cause.

The character of our examinations to a very large extent encourages cram.

Cram encouraged by character of examinations. Witness said he would cite his experience of Latin examinations to give a clear idea of the extent of the evil and of the means by which it can partially be cured. Latin being a very difficult language for Indian students, the text-books are naturally short. For instance in the previous examination this year the amount prescribed was 900 lines of Ovid, and one book of Livy. Indian students have such great powers of memory that it is quite possible for them to learn the whole translation of these short text-books by heart. The amount prescribed is of course larger in the more advanced examinations, but the students always learn a large amount of translation and notes by heart, and in extreme cases they even try to learn the whole. They can then safely neglect, and do neglect, the Latin prose composition which bears about 20 marks out of 100, and devote their efforts mainly to learning the translation and some notes by heart, being quite sure that if they do so, they will pass the examination. Such study from an educational point of view is utterly useless and only exercises the memory. It is a sham, because the candidate who is supposed to have qualified, may be unable to read Latin prose or translate an easy passage from Latin into English. He has obtained little or no insight into Latin literature, no taste for the language and no notion of the way foreign languages ought to be studied. The remedy for this is evidently the introduction of unseen passages for translation into English. If a candidate knew that half marks in the examinations would be assigned to translation of unseen passages and Latin prose, he would learn his books intelligently and in such a way that by learning the text prescribed he would at the same time acquire the power of grappling with similar difficulties in other books. Thus, the introduction of unseen passages would tend to make the study of languages less servile. Another great advantage would be the more effectual elimination of duller intellects in successive examinations, so that the highest examinations may be passed by, and the highest degrees given to, the brightest students. Witness' own experience as an examiner in the Allahabad University, in which unseen passages are set in English, supports his contention in this matter. In examining ordinary questions on prescribed texts the examiner is often doubtful whether the candidate understands what he is writing—whether it comes out of his own head or out of printed or written notes learnt by heart, but an unseen passage well explained and commented upon is a clear sign of the writer's intellectual power and a most satisfactory test for the examiner. Latin is a striking and a rather extreme instance of the examination evil on account of its double foreignness, i.e., it is a non-oriental language learnt through the medium of a foreign language.

There have been no candidates for Greek in the Bombay University for

Latin and Greek.

many years past. It is practically not taught. Some years ago one or two students took up Greek for studying the New Testament. There are a certain number of candidates in Latin, but its study has very much diminished of late years owing to the introduction of French. Witness once gave a course of special lectures on Greek and Latin literature. (The Wilson Philological lectures.) People did not take a very keen interest on the subject. The attendances were very variable in kind. Witness tried as far as possible to make the lectures more interesting by oriental references and oriental comparisons but without great effect. Greek is practically impossible, as a study in India, and except for Europeans it is doubtful whether Latin can profitably be studied. It ought perhaps be studied to a certain extent by students taking up medicine. It is not necessary to make provision for the study of Greek and Latin on the ground

that they are still the basis of liberal education in Europe, for our Indian education is based upon English, and English is based upon Latin, if therefore we go into Latin and Greek, we go into the foundation of a foundation. It will be sufficient to study the History of Greece and Rome. Students studying Latin use cribs and small annotated editions employed in English Schools. None have been specially prepared for the Indian market which is not large enough to make a special edition profitable.

The Bombay University had abolished text-books in the Matriculation Examination and on that account it is a good examination. In all the higher examinations text-books are prescribed, and practically no unseen passages set. Perhaps a particular examiner may introduce a little bit of unseen. He would be regarded as eccentric and condemned by the general public.

The Bombay examination papers do not err by asking too many questions about grammar. Grammatical questions tend to support intelligent study, but they are few in the Bombay papers and carry few marks. They are a necessary and useful part, but always a small part, of advanced examinations.

For the Matriculation Examination there should be a very minute test of grammar. Theoretically a student ought to be master of grammar before he goes to college, and in the higher examinations he ought only to be asked advanced questions on really difficult points. Too much importance is not at present attached to grammar, and the manuals which the students have to learn are written in simple English and are a good exercise for them. In addition to the grammar, the student has to write an essay which tests his knowledge of English and his power of English composition. He cannot do it unless he has read a good deal. It may be open to consideration whether text-books ought to be added in the Matriculation course, but it is not absolutely necessary. Translation from the vernacular is as good a test as paraphrase. It would be better to have both, but one cannot crowd everything into one paper.

Witness did not think that any evil resulted from the method of translating a passage into the various vernaculars which has then to be retranslated into English by the candidates. After reading a few of the translations the examiner can see whether the paper is correctly translated, even if he does not know the vernacular, and as a matter of fact, every examiner knows probably a little of one of the vernacular languages. The paraphrase is a far stricter test and school masters when sending up boys generally warn them against it. The Matriculation Examination would be better if there were another paper with a paraphrase of English, but the addition of a paper is an important question when there are some three thousand candidates for examination.

Matriculates generally know English well enough to follow the lectures.

What they complain of is that they cannot follow European pronunciation at first, having so many of them been taught by natives. But this is only a temporary obstacle; after a week or so they become used to the European way of pronouncing English words and understand them. The complaint has been exaggerated.

Students often understand their subjects better than they can express their knowledge in English. Sometimes in examining students in a subject like logic in class witness has known them to have understood the subject well enough, but when asked to do a paper in it they could not express themselves properly. They trust to their memories rather than to their intellectual powers and repeat what they have learnt by heart. Students can also understand spoken English more readily than they can express themselves in it. This is due to want of opportunity of speaking English especially in mofussil schools. If the complaint of not understanding the lecturers is louder than it used to be, this is probably due to the greater size of the classes which makes it more difficult for the speaker to make himself heard by all.

English poetry ought to be taught as much as prose. In some ways it is more instructive and lends itself more easily to intelligent explanation. The paraphrase an admirable test, but not much better than the vernacular translation.

In Bombay the study of English has been much improved both in its methods and results by the introduction of essays in all University examinations. But even now essays only bear 25 per cent. of the total number of marks and that is not enough. The average Indian student is a shrewd practical person and is most inclined to study subjects in proportion as they pay. In other languages, essays are not prescribed and unseen passages are not set except in the M.A. and the marks assigned to prose composition in the languages are few. The following figures showing the proportion of marks given to essay or composition are taken roughly from the calendars. Previous Examination: English 25 per cent., Sanskrit 15 per cent., Latin 26 per cent., Arabic 12 per cent., French 23 per cent., Persian 20 per cent., Avesta and Pahlavi 10 per cent. Intermediate Examination: English 25 per cent., Sanskrit about 25 per cent., Latin 20 per cent., Arabic 23 per cent., French 20 per cent., Persian 18 per cent. B.A. Examination: English 25 per cent., Sanskrit 13 per cent., Latin 20 per cent., French 17 per cent., Avesta and Pahlavi 12 per cent., Persian 20 per cent., Arabic 14 per cent. In the voluntary subject no mark is ascribed to essay or composition in English, Sanskrit, Latin, Avesta and Pahlavi, and only 5 per cent. in French. The voluntary examination in languages consists for the most part of two papers on text-books, with no original composition and no unseen passage for translation. In the M.A. Examination one out of three papers in English is devoted to essay, and in the other language taken up with English, one paper is given to unseen and compositions; that is $33\frac{1}{3}$ per cent. of the marks in the M.A. are given to original composition and translation. The other figures given above are rough, but they show that as a rule not more than 20 per cent. of the total marks in languages are given to composition. The study of languages would be greatly improved if more weight were attached to essay and composition. Witness would invite the Commission to ask all teachers of languages in our Universities whether it would not give greater impetus to the intelligent study of languages if half the marks in every language examination were assigned to composition in that language and translation into English of unseen passages, or, if they would not agree to such a trenchant reform, whether they would not advocate the introduction of unseen passages in all language examinations. A proposal of this kind was brought by witness before the Syndicate some years ago. The Syndicate did not bring the matter before the Senate, not because they disapproved of the principle, but because they knew that such a change had no chance of being accepted by the Senate, constituted as it now is.

The circumstance related above leads to the consideration of the constitution of the Senate. Here we have a supreme body that determines educational questions rejecting, or sure to reject, a measure which appears to be most highly beneficial. Such a state of things must arise from defects in the constitution of the body. The Senate is a popular assembly mainly composed of Indians whose strongest characteristic is benevolence sometimes carried to extremes. The members of the Senate are so full of sympathy with candidates that they are not inclined to admit any change that might possibly make the attainment of degrees harder. Now, the change proposed need not necessarily make the attainment of degrees harder, nor is any raising of the standard recommended. The number of degrees is not an evil as long as Honour degrees, at any rate, are not given lightly. Still the change proposed would be suspected of having this tendency and as such would not commend itself to the popular Senate and would therefore be rejected. On another ground it would be unpopular. There would be more uncertainty in the results of examinations. There is a good deal of chance in the character of the "unseen" that is set and that would lead to uncertainty. It is considered, and perhaps with some reason, a hardship that a student who has worked honestly and regularly at his books should not be sure of passing. This is an evil which looks like a kind of injustice, and one sympathises with the feeling, but in educational matters as elsewhere, small evils must be endured for greater good. In this case there would be every encouragement to a more liberal and inspiring style of education and students would be less exclusively confined to the cultivation and exercise of memory. In one way the change might be acceptable even to the Senate. The present cram system leads to

excessive and terribly monotonous work sometimes extending to 17 hours a day, ruinous to the powers of mind and body of a student. The more intelligent study of languages would be evidently better pursued by the student who can confine himself to such limited hours of study as would allow his mind to be at its brightest. They would have the sense to see that their power of grappling with fresh "unseen" would not depend upon their learning long rules and notes and pages of criticism, but it would depend upon their keeping mind and body fresh. It would prevent them from going in for extravagantly excessive work. Another argument of a similar character in favour of the change would commend itself to the Senate and to all reasonable men. At present students ruin their health by suddenly beginning study very hard on the eve of their examinations. This is because everything depends upon their memory. They cannot expect to remember at the end of a year, what they learnt by heart at the beginning. Therefore they neglect their studies at the beginning and make up for it by tremendous efforts when the examination is close at hand. If, instead of learning words and sentences by heart, they studied intelligently and acquired correct ways of thinking, as they would have to do with the prospect of unseen composition before them, they would begin to study in proper time, knowing that the acquisition of correct ways of thinking and the power of mastering difficulties of thought and construction, once acquired, are permanent mental possessions, just like the power of swimming or balancing oneself on the bicycle, which once attained, is not quickly forgotten. A *viva voce* examination might to some extent have the same result, but practically it is not a very satisfactory test, because it is not possible to devote enough time to each student.

Witness explained to Mr. Justice Banerjee that in saying that the benevolence of the Indian element in the Senate might lead them to reject useful measures he did not mean that an Indian element was not essential in the Senate. He regarded it as just as useful as the English element. But the benevolence and sympathy characteristic of Indians may sometimes lead to bad results just as the qualities of the English members may lead them sometimes to exercise a bad tendency in the deliberation of the Senate.

Experts no doubt sometimes differ considerably among themselves, but even where educational experts are either unanimous, or have decided by a majority in favour of one view, they are liable to be overruled by the popular element in the Senate. Witness could not quote specific instances but that is his general impressions.

In reply to Mr. Justice Chandavakar witness said that the curriculum would have, if necessary, to be modified to give time for the study of languages in the manner proposed; but that the study need not necessarily be much more difficult than under the present system if the passages set are fairly easy. For the test to be sufficient it is not necessary that the passages should be difficult.

In reply to Mr. Pedlar witness said that in the case of the examination by compartments the majority of experts were opposed to the proposals, but the general body of Senators were in favour of making the examination easy and, therefore, overruled the opinion of the majority of experts. The tests should not, however, be made harder than at present, nor the attainment of a degree rendered more difficult.

In reply to Dr. Bourne witness said that the representatives of missionary bodies are just as anxious to maintain the standard as other educationalists.

Much might be done to combat the evils of cram in subjects other than languages. For instance, problems in Logic and Moral Philosophy offer admirable tests.

Prevention of cram in subjects other than languages.

All College Professors should be included in the senatorial body. It is absurd that learned and energetic men fresh from England with the latest European educational ideals in their heads, like Mr. Covertton of the Elphinstone College, and Mr. Robertson of the Wilson College, should have to wait several years before they are admitted to the body of the Senate, nine-tenths of the number of which body are inferior to them in learning and educational experience.

Composition of the Senate.

A difficulty in way of the recognition of teachers by the University is that the Education Department would probably dislike having to submit their choice to a non-Government body. It is quite unnecessary that they should do so, for of late years the choice of men in the Education Department has been admirable.

Recognised Teachers.

Supposing a college were recognised or affiliated by the University with a particular staff of professors and teachers, and the income of such a college were to fall and it was found necessary to replace the more highly paid staff by men on lower pay, and inefficient teachers were therefore appointed, the college would certainly lose its students, and it would therefore not seem necessary for the University to interfere. The University should have the power to intervene in such cases; they would not often be obliged to use it. They have the power now in theory, but do not exercise it in practice. It would certainly be objectionable to allow a first grade college to go on for months together without a Professor of Mathematics.

The President asked with reference to the proposal of the witness that all College Professors should be *ex-officio* Fellows whether it would be safe to make a man a Fellow simply because a college finds it convenient to make him a Professor in a certain subject. There would be no guarantee of his fitness unless the recognition of the University were required. The witness replied that the University should threaten with disaffiliation any college that was badly manned.

There does not appear to be any urgent need that rules should be framed and arrangements made to enable the University to satisfy itself from time to time that the conditions of affiliation are being carried out by its constituent colleges. The present system works well enough and the University has almost too much to do in carrying out its examinations and present duties.

Supervision of colleges.

Mr. Justice Banerjee suggests that students should be required to make their own abstracts of books as a means of preventing cram. The best teachers do discourage cram as far as their influence goes. It has an effect upon the best pupils and there is always a minority of good students who have higher aims than merely passing their examinations and love study and literature for their own sake: but the words of advice have little effect upon the majority of the men who study to procure a livelihood and think it an absurdity to aim at the end and not use the proper means, which, under the present circumstances, consist to a large extent of cramming. It would not be to the interest of these students to abandon cramming. There are many keys and note-books in use in this Presidency. It would not pay Head Masters of High Schools in the districts to discourage cramming. Many students would avoid schools which did not cram skilfully.

Even taking into account the restrictions that are placed on the examiners in the subjects in which they examine, the question-papers tend directly to an unnecessary degree to encourage cramming. There is a strong public opinion against any divergence from the text-books, and the questions tend to encourage not only a careful study of the text-books, but cramming. Examiners are afraid to go against this general public opinion. A rule requiring examiners to assign a proportion of marks to book work large enough to enable students to pass in the book work alone would be a bad rule.

That Indian students are more utilitarian in their studies than students in other countries. This arises partly from the fact that they are Orientals studying to a large extent European literature and mode of thought with which sometimes they have no natural sympathy. They do not like their studies as a rule so much as English boys.

Mr. Justice Chandravarkar asked whether it is not the case that in former times, when men like Sir Alexander Grant, Professor Wordsworth and Mr. Chatfield were Principals of the Elphinstone College, there was no cramming, and whether students did not then take delight in English literature and express themselves more thoughtfully and intelligently than students of the present

day. The witness replied that the superiority of the former students is exaggerated. There is always a natural tendency to praise the past. It is too often forgotten that the number of students now is far greater than it used to be in old times, when there were only small numbers in the colleges and those were picked men. Now almost everyone who can afford it sends his son to college, so that the material is less select than it used to be. And even at the present day there is always a strong minority of students who do love English literature as much, as if not more than, the old students, and take a real intelligent interest in their work and are a credit to the colleges to which they belong. There are as many as, or there may even be more than, in old times, but they are not in such a large proportion, owing to the fact that the practice of going to Universities is more common than it used to be. There are many men who have left colleges who express themselves well, but who have not lived long enough to make their mark. They will make their mark 10 or 15 years hence, and people will then be found who will confidently assert that there has been decadence in the education of those times compared with that of the present day.

Owing to the large number of students in our classes now-a-days it is difficult to give individual attention to students. The conditions of teaching are burdensome and the competition amongst students is more severe, so that teachers often have not the time to diverge so much from the prescribed course of study as they were able to do formerly. Having regard to the difficulties which the educationists of India have had to face, our colleges have done as good work as they might have been expected to do.

There is more cramming in the Matriculation than in the higher examinations. That would naturally be the case, because as they get higher in the University career, the worst men are eliminated, and the better students are less inclined to cramming.

It would not be an advantage to make the Matriculation examination purely an entrance examination for those who wish to pursue the college course.

Matriculation Examination.

Government does not fix any limit to the size of classes in the Elphinstone College. It is left to the management of the colleges. If the authorities found the number of students in the classes too large, the Principal would have to make a selection and reject some students. There has been never any occasion to do this. It is done in the Grant Medical College.

Size of classes.

It might be possible to have combined lectures in the M.A., but not in the other classes. The distances are too great. It might be advantageous to have a common science laboratory. There would be difficulties in the way, but they would not be insuperable.

Combined Lectures.

An examination midway between the Matriculation and Degree examination would be better than the present system of Previous and Intermediate examinations. There are too many examinations in the Arts course.

Intermediate Examinations.

It would not be desirable to make provision for a School of Theology, to promote the comparative study of religions.

Theology.

Professors are accessible in their rooms for consultation and students often come to them for advice. The Gymkhana gives many opportunities for professors and students to know each other better and take counsel together. But here again one is met by the difficulty of the number of students in the colleges. If the numbers were smaller, far more could be done. There are hostels attached to the college, under the charge of a Superintendent who is a native and lives with the boys. All students who are living in Bombay away from their parents and guardians are not compelled to live in hostels. The room is limited and a great many applications have to be rejected. The Presidency Surgeon is paid Rs100 a month for attending to the students. The college authorities do not enquire where boys, who are not living in hostels, reside.

Moral and Physical Welfare.

WITNESS NO. 9—The REV. FATHER F. DRECKMAN, S.I., Rector, St. Xavier's College, Bombay.

The witness said that he had heard the evidence offered by the Vice Chancellor, and, as he agreed with him in Preliminary. nearly every point of his evidence, he would not give the same statements over again. He would therefore confine himself to a few points.

The witness agreed with the general opinion that the project of a teaching Teaching University. University is scarcely feasible. The only practicable approach to it would be in some inter-collegiate arrangements for post-graduate and M. A. work. At present the teaching for the M. A. course implies a great waste of energy. If the very few students who take up the M. A. were collected in Bombay, it would save a great deal of this waste. Although the teaching should be under the auspices and direction of the University, the different colleges should undertake the courses; one college, for instance, should teach English or part of English, another Latin, and another Science or some other branch. It is only where there is nobody able to or willing to take a course that the University should appoint a University professor for it. In that case such a professor should not be on the staff of any of the colleges: he should stand alone as a University professor. Otherwise the college that had such a professor on its staff would gain such prestige that the other colleges would suffer. The colleges must work together for the benefit of all. At present the private colleges have a hard struggle to compete against the Government colleges, which have larger resources, greater prestige, and the advantage of the general opinion that those who go up from Government colleges have a preferential claim to Government employment. The defect in resources is not in the teaching staff, that is as large in the aided as in the Government colleges. It is in matters such as scholarships, of which the Government colleges have a very large number and which the private colleges are perhaps unable to provide. This circumstance draws the best students to the Government colleges, and the work of the private colleges in teaching is more difficult, because they have to deal with inferior material.

Even in Science it will be better to leave teaching to colleges where they can provide the requisite instruction and equipment. If the University provides professors and laboratories, it will draw all the Science students from the mofussil to Bombay. This would, on the whole, be a disadvantage; there would be less variety of instruction, and if Science were taught only at the Presidency town, it would spread very little in the provinces. It would, no doubt, be more economical to centralise Science teaching, but the disadvantages would more than outweigh this.

The contention that better instruction can be given when students are in contact with others who are working at the same subject is true. It is an argument in favour of concentration of B.Sc. teaching, but in the B. A. in Physics and Chemistry there are a sufficient number for the classes. Twenty is a sufficient number for a class: it would be much better than 40. The B. Sc. has not as yet taken on, and we should not yet draw conclusions from it. The B. Sc. course is to a certain extent anomalous. There is Physics and Chemistry both in the Science and in the Arts course. Mathematics also forms part of both courses. Pure Mathematics belongs properly more to the Arts course. The B. A. course is sounder than the B. Sc., which includes too many things; for instance, Natural History and Physics and Chemistry, which have nothing to do with each other. The Physical and Natural branches should be separated. M. A. students have not to pay any fees: that is a mistake which ought to be remedied. The M. A. course requires great expenditure. For instance, in Physics and Chemistry, it requires most expensive apparatus. It ought to be the general rule in all the colleges that M. A. students should pay fees just like the others. As long as Government colleges do not charge any fees, the private colleges cannot do so except in the case of students who join from other colleges. There was some correspondence with Government on the subject, and the Principals of the Government colleges were opposed to charging fees.

Education is valued more if it is paid for, and it is not fair that colleges should undergo heavy expenditure without being to some extent recouped by fees.

There are scholarships for the encouragement of post-graduate study, namely, the Dakshina Fellowships. The Dakshina Fellows devote three hours a week to teaching the junior grades. The number of M. A. students varies greatly.

In the B. A., the B. Sc., the M. A., and in all other courses where Science is taught, a certain minimum is necessary for practical work. The minimum is about 20 per cent. For the B. Sc. Physics there is very little practical instruction. The laboratories in St. Xavier's College are just sufficient for teaching up to the B. Sc. For the M. A. in Chemistry it would be necessary to go a great deal further. There are in St. Xavier's College 11 students in the M. A. course, and in the B. Sc. in one course about 10 and the other 15 or 20. It depends very much on the examiners whether the same questions are set to all the men in the practical examinations. In some cases they get the same questions. The questions are not printed. Most students prefer to take languages rather than Science for the M. A. The reason is that the examination in Physics and Chemistry is much more difficult than that in languages. It would be difficult to completely equalise the standard in different subjects. They ought to represent approximately the same amount of work, but to get them mathematically equalised is impossible. Another reason for the choice of languages is that the candidates to a great extent do not like practical work and practical examinations. They prefer to deal only with theories. The standard of languages is too low for the M. A. Students who despair of passing the M. A. in Science in one year succeed in passing it in one year in languages, *i.e.*, English with a classical language.

In the Senate as now constituted, the relation between that body and the colleges is very unsatisfactory. There is very little understanding of the wants of the colleges, and very little sympathy. All schoolmasters and professors are considered here as common enemies. Witness was told in the Syndicate not very long ago that he seemed to be under a misapprehension in thinking that the University was there for the colleges. It was the other way about, the colleges were there for the University, and the interests of colleges must be subordinate to the University, that is to examinations. The Senate does not consider that the work of the University has to be done in the colleges, and that they ought to be more fully recognised. The present Senate is too unwieldy, and to a great extent its constitution is unsuitable. It ought to be composed of professional educationalists rather than of amateurs, or of people who belong merely for the sake of the honour. The whole Senate should be reconstituted, and a working majority ought to be professional educationalists, men either actually engaged in teaching or who are conversant with it. It would be an improvement in detail were the Engineering Faculty absorbed in a Faculty of Science. At present those who teach Physics and Chemistry are placed in the Faculty of Engineering. The Senate should include a certain number of members *ex-officio*: first, the Director of Public Instruction and the Educational Inspectors, because the Senate must keep in touch with the schools; next, the Principals of all fully recognised colleges (7 in Arts and 3 Professional); lastly, two representatives of the other colleges and one representative of the high schools. Professors of colleges of a certain standing ought also to be *ex-officio* Fellows. Some have suggested they ought to be of three years' standing, others have suggested five years. It is difficult to say which period should be prescribed: it will depend upon the number of men available. The number of the Senate should be limited to 100. It will not be easy to find more than a 100 men who are qualified and willing to serve. At present the meetings of the Senate are sometimes sorry spectacles of empty benches. There is scarcely anyone who takes interest in the proceedings, even though they be of an important character, yet great interest is generally taken in elections and especially in contested elections. After such an election, if there is any important business to be transacted in the Senate, half the members or more leave the hall. At least two-thirds of the Senate ought to be educationalists, either past or present,—men who are conversant with, and who take an actual interest in, education. The Faculty of Arts should contain 40 members and the

Faculties of Science, Medicine, and Law 20 each. The problem is how the transition from the large to the smaller modified Senate is to be effected. The curricula should be settled by the Senate. In a reformed Senate, if a Faculty comes up with an unanimous proposal, the members will have sense enough to accept it.

Formerly the University was in close contact with the Civil Service, but of late they have lost that contact completely. There are at present scarcely any members of the Civil Service on the Senate, although many of them are eminently fitted to be members. This is a pity.

The tenure of Fellowships should be limited to five years, outgoing Fellows being eligible for re-election. The names of all candidates for Fellowships should be submitted to the Syndicate to judge whether they are eligible. Fellows should be appointed in the following manner: $\frac{1}{2}$ should be appointed by Government, $\frac{1}{4}$ by the colleges, and $\frac{1}{4}$ should be graduates of a certain standing, say 20 years, to be elected by graduates of the same standing. The qualifying period may be dispensed with in the case of M. A's and M. D's. Elections or appointments should be held or made as vacancies occur. A graduate of less than 20 years' standing might be appointed to the Senate as a college professor. College professors should be elected by the members of the college staff. The number 100 should include the *ex-officio* members of the Senate. The Senate is at present swamped by the Legal Faculty. Some of the Legal Fellows who are in the Arts Faculty try to pick holes in all propositions. Witness does not mean that the Legal Faculty has become a nuisance: it contains some of the best men on the Senate.

The Legal Faculty in the Senate.

At present the Syndicate is either too large or too small. For quick despatch of business it is too large, and for a thorough discussion of all questions it is too small. The number should be increased to about 30, and the powers of the Syndicate increased. At present the Syndicate is merely an executive body; it can do nothing except under the supervision of the Senate, and the Senate can overrule any of its decisions. That is not a healthy state of things. The Syndicate ought to be placed on a statutory basis, and have certain rules of its own, so that matters such as the appointment of examiners cannot be overruled and corrected by the Senate. The following should be *ex-officio* members: the Vice-Chancellor, the Director of Public Instruction, the Educational Inspector of the Central Division, the Principals of all fully recognised colleges, (7 in Arts and 3 professional). Four syndics should be elected by the Faculty of Arts and two by each of the other Faculties. Two members should be elected by the colleges and one by the Educational Union as representing the high schools. Members should be appointed for five years, and should retire by rotation. As the Syndicate will be large and as the Principals of mufussil colleges such as Sind and Poona would find it difficult to come often to Bombay, a smaller body should be elected from the Syndicate to transact current business.

It would not be desirable to abrogate the rule that every Fellow must be assigned to a Faculty. If a man is not

Faculties and Boards of Studies.

qualified to be a member of the Faculty, he is not qualified to be a member of the Senate. As regards Boards of Studies, if the Syndicate is increased as proposed, the Boards of Studies, although they might be very convenient and might relieve the Syndicate of a great deal of work, would not be so necessary as at present. The system which has been followed in Bombay has worked pretty well. Text-books that are prescribed are circulated to the colleges for opinion, and there have not been many complaints.

Examiners should be appointed by small Sub-Committees of the Syndicate, consisting of the Dean of the Faculty and two members to be appointed by the Syndicate. In default of this, the appointments should be made by the Syndicate. The Senate should be given a very limited power over the Syndicate, subject to which the action of the latter should be uncontrolled. The financial affairs of the University should be left to the Syndicate, which might appoint committees of experts out of their own number to superintend such matters. These things might be left to the reformed University.

The complaints about English are not altogether well founded, although the knowledge of English has to some extent deteriorated. One reason is the abolition of the oral examination in the Matriculation. It is to be feared that is past cure now. The abolition of the test has certainly not worked to the advantage of English teaching. Another reason is the increase in the number of the students. Formerly in the times of which Mr. Chandravarkar speaks only a select few joined the colleges, and it was much easier to teach a small number of bright students than it is to carry on the work weighted down as we are by a quantity of inert matter.

Witness has had very small acquaintance with school work. In St. Xavier's school the study of English is begun as soon as possible. Witness does not think that the instruction in English has been injured by its being begun in the lower classes under the charge of very junior teachers. Mr. Pedler differs. Any difficulty that students may have in following the lectures soon disappears. The same complaint existed 15 or 20 years ago, and perhaps in some cases it was even stronger.

The Matriculation examination might be improved if it were made an Entrance examination pure and simple. Now it has to serve a great many purposes. The proposal that comes up now and then to do away with it entirely is a bad one. The Matriculation has laid down the standard to which our schools have to educate, and it would be a great burden on the colleges if they had to hold each of them its own Entrance examination. There would be this further disadvantage, that in the event of transfer from one college to another, the Principal of a superior college might have to accept the Matriculation of an inferior college.

A school-leaving certificate could not take the place of the Matriculation examination. The University ought not to let the Entrance test go out of its hands.

The present system of examinations is too mechanical. We require in every subject 30 per cent. and 30 per cent. in the total. It would be fairer and better to demand a lower minimum in each subject, but a higher minimum in the total. Universal talents are very rare, and those students who are proficient in some subjects should have an opportunity to make up for deficiencies in other subjects. The candidates who failed under the old system of examinations deserved to fail, while some very good men fail under the new system. There should be a difference between the minimum in each subject and the minimum in the total, so that a really deserving student who might be deficient in one branch and efficient in another might be excused for this deficiency to a certain extent, and *vice versa*. The minimum should not be reduced below 25 per cent. The minimum should be left to the University to settle.

It would be a great advantage to the University if the Registrar were made a full-time officer.

At present any close supervision of the colleges by the University is quite out of the question. The Senate is not a body which has the knowledge or the qualifications to superintend the colleges, and on the whole any interference of the University in the internal management of the colleges is to be deprecated, except in so far that the University must be satisfied that the colleges keep up their efficiency.

WITNESS No. 10—MR. O. V. MULLER, Professor of History and Political Economy, Elphinstone College.

There is urgent need for reform in the constitution of the Senate. The government of the University appears to have been modelled largely on that of the London University, without any reference to the position of the colleges. When the Elphinstone College was built, Professor Wordsworth said that at Oxford the colleges overshadowed the University, and that this ought not to happen in

Bombay. The college was built at a distance, which also seems to show that the spirit of some of the early founders was to prevent the colleges from overshadowing the University. Now that there are many colleges, the more suitable model would seem to be Oxford or Cambridge rather than London.

In considering the numbers of the Bombay Senate, it must be remembered that it has other functions besides

Size of the Senate.

those ordinarily performed, namely, to return a member to both the Legislative Council and the Bombay Municipality. In this respect the University of Bombay is a political as well as an educational body. We could not reduce its numbers to any very great extent without destroying these uses, and 200 might therefore be fixed as a suitable limit. It would not be desirable to disenfranchise educational opinion in Bombay, and the political and educational interests can both be maintained by retaining a Senate of 200 and at the same time transferring much of the power from the general body of the Senate to its executive committees and in especial to the Syndicate.

All Government professors should be made *ex officio* Fellows on their appointment to a college. According to the printed

Constitution of the Senate.

form shown to the witness in the office of the Secretary of State for India, an Indian Educational Service recruit must have taken a first class in the Oxford or Cambridge University in the particular subject in which he is appointed to teach. Witness was in Bombay several years examining, serving on committees for text-books, and performing innumerable small University functions, but with no voice in the Senate. The same thing happens to many others. Professors of other colleges should, if they have similar qualifications to the Government professors, also be appointed *ex-officio* members of the Senate either with the approval of the Government or of the University. For Indian professors the qualification might be a first class in the M. A. examination. The rule requiring Government professors to be first-class men has been strictly followed in the Bombay Presidency for many years past.

The appointment of these professors of Government and other colleges

Conduct of business in the Senate.

would tend to strengthen the power of the colleges in the Senate. This would be a reversal of what was the deliberate policy of some of the founders. Witness has always attended meetings of the Senate, and a great part of the work of himself and the other professors is to fight in order to maintain good text-books and to prevent the standards being lowered. The first intimation you may receive of a proposal of this sort affecting your own subject may be the entry in the list of business, and then you have to fight against the proposal in the non-expert Senate. There is a constant tendency to lower the standard, or, what amounts to the same thing, to appoint text-books for higher examinations where there were none before. There is a certain section in the Senate composed principally of Indians who take this line.

The original proposal of examining by compartments was not meant to lower the standard. If the resolution, as it was ultimately framed by the Senate, had been passed, it would have lowered the standard, and the supporters of it, no doubt, hoped that it would.

In the Syndicate the chief weight should be given to colleges; the heads

The Syndicate.

of all colleges cannot be members, but the Principals of the three old Bombay colleges, *viz.*, the Wilson College, the St. Xavier's College, and the Elphinstone College, should be *ex-officio* members, and half the seats should be filled by professors and teachers to be elected by the Senate. Witness would not express an opinion as to what the total number should be. He considered thirty would be much too large, and had opposed the enlargement which was made by including the Deans of the Faculties.

In accordance with the principle of throwing the weight of authority

Vice-Chancellor.

into the hands of the colleges, the Vice-Chancellorship should be conferred more often upon the head of a college, instead of, as an honour, on some distinguished official or man in some other walk of life. There have been such appointments of Principals of colleges in Bombay, and they have been

attended with great success. The office of Principal of a college is high enough to confer dignity on the position of Vice-Chancellor.

The Faculties, as they at present exist in Bombay, are only used for electing Syndics. The Faculty of Arts, to which witness belongs, has not met for any other purpose for some years. When they did meet, the discussion was always regarded as a waste of time, because the recommendations of the Faculty carried practically no weight. The whole subject would ultimately have to go through the Syndicate to the Senate, where the opinion of the Faculty might or might not be listened to. The Faculty are supposed to discuss questions referred to them by the Syndicate or by the Senate, and they can initiate subjects, but, as a matter of fact there has been no meeting of the Faculty for four years except to elect Syndics.

It is perhaps because the decisions of the Faculties are overridden by the general body of the Senate that the Faculties practically never meet. It has constantly happened in the Medical Faculty that the Faculty has come to a conclusion which has been overridden by the Senate.

There are no Boards of Studies in Bombay. It is most necessary that there should be a Board of Studies appointed for each subject in each Faculty, if possible, for a term of years, and that text-books should be fixed by them, and not by the Syndicate.

The present system results in the selection of inappropriate text-books. For instance, the late Mr. Justice Rauade and others drew up a suitable scheme for the M. A. course in History. During his illness and in the absence of the witness and the Government professor, the scheme was radically changed and unsuitable books were prescribed. One book was included which was published in 1820 and only two copies of which exist in India. The number of books prescribed was also more than the student could possibly study. The experts on the Boards of Studies should be experts in the particular subject. There should therefore be separate Boards for each branch of study. Each Board should consist of five members, of whom three must be teaching the subject in some college. They should be chosen by the Faculty and appointed for three years.

Too much stress is laid on the bare percentage of passes. The University list and the college list published by the Director show merely the number sent up and the number who passed. Account should also be taken of the class. A college which passes a good many 1st and 2nd class men may have done much better than a college with a higher general percentage of passes. Insufficient account is taken of the great difference between men of different classes.

As the examinations are at present constituted, there is a certain amount of chance whether a student who is on the border line will pass or not. It would therefore be wrong for a college to keep back a student who is doubtful, because it is to a certain extent a lottery whether he passes or not. Not many students have of late years been kept back in the Elphinstone College. If a student has done badly, he is warned, and it is left to him whether he will go up for the examination or not.

It would not be desirable to fix an age limit, because many of the best students go to England and should finish their Bombay course in time to enter Oxford or Cambridge at the same age as English students.

Students who come from the mofussil have during their first term in college a little difficulty in following lectures, because they are very often not accustomed to hear Englishmen speak English. The difficulty disappears by the middle of the first term.

If the University is to teach, the subjects of Physics and Chemistry are those in which it could do most good. In order to teach these subjects efficiently, appliances are required, which are beyond the means of some of the colleges. The same difficulty was experienced at Cambridge, where the University

has taken over the whole of the Science departments. In India also the Universities should take the matter up and equip laboratories both for Physics and Chemistry. The teaching of Physics ought not, as at present, to be left entirely to natives of this country. It is laid down by the Education Department that the professor of Physics must always be an Indian. The reason is that the number of professors from England is small, and that some subjects such as History and Moral Philosophy require to be taught by English professors. Some scientists ought to be procured from England to introduce more recent European ideas. At the Elphinstone College there is a splendidly equipped laboratory for Physics, which is more or less wasted. The arrangement for teaching Chemistry is also unsatisfactory. It is taught by the Chemical Analyser to Government, who only receives a conveyance allowance for the duty. In the Wilson and St. Xavier's Colleges there is better provision for the study of Physical Science, and more students take it up.

The present Bombay course in History and Political Economy is very satisfactory, with the exception that Geography is not taught. It is not prescribed in any of the curricula, and the ignorance of even good graduates of the subject is appalling. Geography has now been introduced into the Provincial Service Examination. There is no objection to including History and Political Economy in one group. The same arrangement is followed in other places, and Political Economy is included in the historical tripos at Cambridge. Political Science forms part of the M. A. course.

In reply to Mr. Justice Banerjee, witness said that a certain section of the Senate tries to lower the standard chiefly by limiting the amount that may be set by confining the examiners to text-books and even to pages of text-books, and by making text-books easier. They would also like to reduce the actual percentage of marks.

The M. A. classes are the only ones in which it would be possible to introduce the inter-collegiate system. M. A. students are few in number, and they are not tied down by a large number of hours like other students. It might therefore be possible among Bombay colleges to arrange for M. A. students to have a sort of inter-collegiate lecture system. For instance, they might attend lectures at the Elphinstone College on one part of the History course and at St. Xavier's College on another part. Such an arrangement would be facilitated where the professors are personal friends. If this could be done right through the M. A. course, it would mean a great saving of time, and would produce greater efficiency.

Examiners are appointed too much as a matter of patronage and from considerations of caste. It would therefore be well to lay down certain qualifications by rules which might be kept confidential. For instance, no graduate of this University should ordinarily be allowed to examine in any subject in which he has not proceeded to the degree of M. A. A graduate should not be allowed to examine in History who has not taken the M. A. degree in that subject. M. A.'s in Literature are sometimes appointed to examine in History. An exception may be made to the rule where a graduate has distinguished himself in another subject after taking the degree.

Again, Englishmen, when available, should be appointed to examine candidates in the English language. The tendency has been to appoint native examiners to examine in some English examinations. Their services could probably be better employed in other subjects. They cannot test the students' knowledge of English in the same way as Englishmen. Even in the B. A. examination a native gentleman was appointed to examine in English last year. It is as important, or more important, to have English examiners in the lower examinations. For in them it is the knowledge of the language which has to be tested, whilst in the higher examination it is more the knowledge of Literature.

The rule that Syndics are debarred from examining should be abolished. Under the self-denying ordinance, a Syndic is disqualified from examining. This acts in two ways. It debars a good man from becoming a member of the

Syndicate if he wishes to examine, and also deprives the University of the services of men who are well qualified to be examiners or who are on the Syndicate.

Under the present system, each examiner or group of examiners sends in the marks to the Registrar. Five or six days after there is a meeting of the examiners for the addition of the totals. Not unfrequently the examiners may find that a student who perhaps has failed in one paper by one or two marks has passed well in other subjects. The examiners should have it in their power to reconsider the case of such a student. It may also happen that in a particular subject a man is just on the border. If it were known to the examiners that he had otherwise done well, he might be allowed to pass in that subject, but, if the contrary were known, they might decide that he should not be allowed to pass. At present there are no means of finding out how the candidate has done in other subjects. There is no way of deciding that on the whole a candidate should or should not pass. The same remarks apply with even greater force to the division into classes. It is frequently seen at the meeting of examiners that a man has missed his first or his second class by one or two marks. It ought to be possible, by looking at the whole of his papers, for the examiners to say in what class such a man should be placed. At present these matters cannot be discussed at a meeting of the Board of Examiners. They meet simply for the addition of the marks. The present system does not lend itself to abuse, but, on the other hand, it often causes grave injustice.

The University has a number of small endowments consisting of prizes for competition which often remain adjudged. They are not competed for, and the funds accumulate and are sterile, while the University is starved in other directions. Steps might be taken to utilise these endowments for some useful purpose.

WITNESS No. 11—MR. W. H. SHARP, Elphinstone College.

The Senate is too large, and contains a great many people who are of no use. The number should be reduced to 100. Fellowships should be made terminable. An attendance test cannot be enforced in regard to upcountry members. The transition is a matter of difficulty. The analogy of the Justices of the Peace might be followed. Every now and again Government publishes a list of those elected to be Justices of the Peace. Those names that appear in the list are considered Justices, and those left out of the list cease to be so.

Witness has served on the Syndicate for a year. It is a little too big for the convenient despatch of business. A great deal of business is settled or discussed in the first instance in circulation. If members keep the papers to consider them, it occasions great delay. It would be desirable to enlarge the powers of the Syndicate and make them independent in certain directions. For instance, the Syndicate should be allowed to excuse students who have failed by a few days to complete their college terms. The Syndicate should have some *ex-officio* members. At present there is a good deal of manœuvring and canvassing before elections. If the Principals of the three Bombay colleges were *ex-officio* Fellows, it might save them from what is sometimes an awkward position. There is considerable desire on the part of Fellows to get into the Syndicate. In some cases it is, because membership carries with it a certain amount of patronage. Members themselves do not canvass, but the election seems to be engineered and arranged beforehand. For several years the University has generally acted upon the principle that the Principals of the three leading colleges ought to be Syndics.

There is room for considerable improvement in the appointment of Examiners. The system of inviting applications should be abandoned. There are a very large number of applications, most of which are from persons who are quite out of the question. Representatives of the Faculties discuss the set of Examiners for that Faculty informally in the first place, and arrive at a general

conclusion as to who are to be appointed Examiners. It seldom happens that any one is appointed who does not apply. It is taken for granted when a man does not apply that he does not wish to be made an Examiner. Many gentlemen do not refrain from applying out of disinclination to take this step. Witness has heard of one such case. The total number of Examiners appointed for the Entrance Examination is considerable. There are six Examiners in English, two each in the other subjects and one in the Vernacular. The Senate rarely goes outside the University for Examiners. It would probably be an advantage, especially in the more advanced examinations, if persons from outside were asked to set papers. Under existing arrangements, professors may have to examine their own students. Those asked to examine in such cases should be persons connected with teaching. The self-denying ordinance does not prevent members of the Senate from serving on the Syndicate.

The present courses of Logic and Moral Philosophy are suited to the students. It is not a popular subject in Bombay. The number of students taking it up for the M. A. is very small, and for the B. A. comparatively small, altogether about 50 or 60. It is a very popular subject in the Deccan, where the majority of the Dakshina Fellowships are given for it. Here no Fellowship is given in the subject, and it has therefore been neglected for others. It would not be desirable to make the subject compulsory in the B. A. course. It is regarded as the most difficult of all the subjects, and would prove a stumbling block to many. One difficulty is the want of satisfactory text-books on Philosophy. They are written in very difficult language. Witness could not compare the standard with that prevailing in Calcutta and Madras, but promised to examine the papers and send a written * opinion to the Commission. It is a more important subject than Political Economy, and an easier course might be devised in order that it should be more largely studied.

The reason why it is desirable that Fellowships should be made terminable is that, on the whole, it would tend to greater efficiency. It would enable the Senate to get rid of those who do not attend the meetings regularly or who have lost their interest in the University. There are a number of Fellows who are not educationalists and who may lose their interest after a time.

Taking them all round, the students are not overtaxed, though some of them suffer from leaving everything to the last hour and then overworking. There has been a flourishing Gymkhana in the Elphinstone College ever since witness has been there. If there were a four-year course with only one examination in the middle, the students would be idle during their first year. They take things very lightly in the first B. A. year, and it would be worse in the earlier part of the course, because the students are younger and less sensible. A college promotion examination might be substituted for the Previous Examination. There is no regular promotion examination at the end of the third year.

Witness heartily endorsed the suggestions made by Mr. Macmillan as to giving unseen passages to candidates for translation. Witness' great experience in Latin and French has convinced him that some change of the sort is very badly wanted. At present a man may get high honours in French without being able to write a line correctly, because the number of marks assigned to composition is very small. For the last two years French has become a very popular subject among students on account of it being regarded as easy. It is a pity that French has attained such prominence. It cannot be called a classical language, and it is undesirable that the Indian classical languages should be discouraged in its favour. It is possible to extend study of an easy subject so as to make it as difficult to pass in it as in other subjects, but that does not appear to have been done in this case. French was introduced in the University curriculum because lady candidates found it difficult to pass in classical languages.

* Mr. Sharp's letter dealing with this subject is paper No. 5 in Part II of the Bombay papers.

WITNESS No. 12—DR. H. M. MASSINA, F.R.C.S., formerly Assistant Professor of Surgery, Grant Medical College.

The witness read a paper,* and was questioned on the separate paragraphs as he read them. The following is the substance of his replies:—

* (No. 6 in Part II.)

The proposal with regard to *research instruction* is that a professor skilled in research work should have a class with the object of helping graduates or college students. The special object would be to advance post-graduate studies. The research lecturer might also make experiments for the benefit of science.

Teaching University.

In the first instance, the Government colleges may be utilised to start the Teaching University. They need not be bodily incorporated into the University, but they should be so far recognised as University institutions that their staff may be designated University professors and teachers. The change sounds as though it were more in name than in substance, but by making it the University will have a greater influence over teaching than it has now simply as an examining body. There should be no interference with the colleges and their professors as they now stand, but as new Professorships arise in these colleges, the University should have a greater voice in the matter. It is not necessary to interfere with the internal management of existing colleges.

There are schools which cannot afford to have teachers in special subjects such as Latin or German. If the University created lectureships or teacherships for such purposes, pupils of these schools could attend such lectures, and the schools could contribute towards the cost of the lectureships.

It is desirable that the Bombay University should permit the students of other Universities to present themselves for its examinations. It will increase both

Spheres of Influence.

the prestige and income of the University. So far as prescribing the curriculum and regulations is concerned, the University of Bombay should maintain its confined sphere of influence, but if the University authorities think the curricula of other Universities are suitable and sufficient, then the students of those Universities should be allowed to appear for the Bombay examinations; just as students of Indian Universities are allowed to appear for examinations in Great Britain by different licensing bodies. The term "recognition for examination purposes" describes the position better than the term "affiliation." For instance, a college at Benares affiliated to Calcutta would remain under the control of the Calcutta University, but its candidates or students might be allowed to appear for the Bombay University examinations. In other words, such candidates might go either to Calcutta or to Bombay, and it would conduce to the prestige of the Bombay University if they chose the latter because they considered its examination more thoroughly conducted and more searching and its degree more honoured and more valuable. To illustrate the meaning, it may be remarked that an L. M. and S. of the Bombay University has not so high a reputation as a man who holds the British diploma. The candidates should be required to satisfy the authorities of the University that he has received proper instruction. More candidates go from Bombay to other Universities than *vice versa*. They take advantage of the examinations of other Universities because they are easier than the examinations of the Bombay University. If other Universities maintained their standards better, the temptation would be removed. This University is not concerned. It does not matter whether the candidate comes from a college not controlled by the University, because it is only for examination purposes that he is received. Instances in which Bengali candidates come to the Grant Medical College because they have not to pass the F. A. or because they have done badly in the first examination in the Calcutta Medical College are very rare.

The system of election by graduates is a good one. Graduates exercise their voting powers on the whole intelligently. Canvassing goes on for these

The Senate.

appointments just as it does for appointments in other bodies, but there is a difference between wholesale canvassing and a reasonable amount of canvassing. The term canvassing is hardly a proper term to apply to what is done. It

might be called "after proper deliberation": sometimes it does come to what is practically canvassing. The system does not cause unfit men to be elected. Witness receives applications from the majority of candidates. In applying for votes the candidate generally asserts his own claims and mentions what he has done and what he has not done, or what he is and what he is not. Candidates have never sent a mutual friend to witness to talk the matter over, nor does witness encourage that sort of canvassing, which ought to be strongly deprecated. There are several straightforward and strongminded gentlemen of Bombay who do exercise the privilege which is given to them in a proper way. There is nothing like the wholesale canvassing going on which is represented by interested parties. Often distinguished graduates are kept back, because they do not like to canvass or put themselves forward. If good men will not come forward, then it is the duty of well-minded graduates to put them forward, and if they are put forward by such people, it should not be said that the latter are guilty of canvassing. It would be best to have a simple proposal and seconding. It would not be advisable to make an absolute rule against canvassing: it would be difficult to prove, and there are different ways of canvassing. What is required is a simple, straightforward election. To the knowledge of the witness there is no bribery or attempt at bribery in connection with elections.

Witness proposed that, should any of the following persons not be a member of the Syndicate, he should be appointed *ex-officio* :—

The Syndicate.

- (1) The Principals of eight colleges.
- (2) The Director of Public Instruction.
- (3) The Principal, Elphinstone High School.
- (4) A representative of the public high schools.

Supposing, as is very likely, that the Faculties elect fourteen men as now on their own responsibility, outside the chosen 11, the Syndicate will normally be composed of 25 members. The increased size will not interfere with the working or efficiency of the Syndicate. The *ex-officio* men will be recognised authorities or experts on subjects discussed at meetings of the Syndicate. In electing Syndics for the various Faculties, one of the two Syndics should be from the staff of the eight fully recognised colleges. In the Arts Faculty two out of the four Syndics should belong to the recognised colleges, so that, they may have a voice in the management of the University. At present, they have not always a sufficient voice.

With a reformed Senate, the Vice-Chancellor should be appointed by the Senate. The qualification should be high academic distinction and a suitable position in the State. The appointment should be for two years as at present.

The Vice-Chancellor.

The Syndicate appoints the Boards of Studies, whose functions are simply advisory. If the Senate, when the suggestions of these bodies come before it, does not think they are appropriate, it must throw them out. If a Faculty or Boards of Studies comes up with a unanimous opinion, that opinion is rarely rejected by the Senate. Witness was appointed a Fellow of the University in 1896. Since that time no such instances have occurred as to lead to the general impression that the recommendations of the Faculties or of experts are frequently rejected by the Senate.

Faculties and Boards of Studies.

Witness has had no experience in teaching English, except that he used to take the lower classes whilst still a student. For paraphrasing a passage, a student must possess a better knowledge of English than is required for translation. The oral test in English was abolished, because it was conducted in a haphazard way. It may be said to have been the fault of the Senate, inasmuch as they did not appoint a sufficient number of examiners and did not give sufficient time for the test. It would improve matters to revive the test, even with the present number of candidates, if the examination were properly conducted and the University appointed good examiners.

University Teaching—English.

If the proposal to make Latin compulsory is adopted, Sanskrit and the Indian classical languages will be included in the group of voluntary languages.

Study of Latin.

An Oriental is not bound to follow on the lines of a Western University, but it is desirable to conform to the European custom in order to give no cause to others to complain that our standard is low or inferior to that of other Universities. Some of the English Universities—Edinburgh, for instance—recognised the Matriculation examination of the Bombay University, but the difficulty lies in regard to the London University. In recommending that Latin should be made compulsory, witness has not omitted to take note of the fact that English to the Indian students is itself a foreign language. The study of Latin will improve their English. The difficulty of procuring teachers would not be insuperable. In Bombay provision should be made by the Teaching University, and for the mofussil five years' notice should be given. If it were possible, the best thing would be to make the London University accept the Bombay methods; in default of this, witness recommends that Latin should be made compulsory. Mr. Hewett asked the witness whether, in the interests of a few candidates who are going in for medical education, he would insist upon every student who goes up for the Matriculation knowing Latin. Witness replied that he would, because the Bombay University does not want to have a separate Matriculation examination for medical students.

Witness would prefer a year of post-graduate work after a student leaves the Medical College, whereby he would gain a better knowledge of his profession, rather than require him to pass the preliminary test of the Previous examination, which would mean a year's more work before he entered college. The average age of entrance is 15 or 16, and men are ready to practise at about the age of 21. If there is a good Matriculation, there is no necessity to increase the standard for admission to medical studies.

A higher standard might mean a longer school course, but that would be better than that a bad Matriculation test.

Candidates do not go up for the M. D. for the reason that it is harder than in other Universities. Among the subjects it includes Surgery, Midwifery, and Comparative Anatomy, and it requires the preliminary qualifications of the B. A. or B. Sc. A candidate must spend ten or more years over his studies. Many graduates who get the L. M. and S. are deterred by the difficulty from going in for the M.D.

M. D. Examination.

In the First and Second Examinations in Medicine a candidate is required to get 33 per cent. to pass in a subject and 45 per cent. of the total number of marks to pass the whole examination. This means a double standard, that is to say, the examiners may think that a candidate has sufficient knowledge to pass in each subject, but when it comes to the question of totals, the University may think he has not sufficient knowledge. Witness would rest satisfied with 33 per cent. for the individual subjects and for the total, but if this be thought to unduly lower the standard, he would alter the percentage to 35 in each case.

Standard of marks.

At this point the Commission rose. On the 7th March Dr. Massina's examination was continued, and was conducted in the same manner as before.

Witness has been an examiner for four years for the L.M.S., and finds that many good students have failed for the sake of 1 or 2 marks in subjects of minor importance, such as Medical Jurisprudence and Toxology. The old rule of allotment of grace marks should be re-introduced. If a candidate has second class marks on the whole, he should be entitled to grace marks. There should be a formal meeting of examiners before submitting their marks to the University, and if they think that certain candidates deserve to get grace marks they should proceed to allot them.

Allotment of grace marks.

The college is at present under a triple government, viz., the Principal of the Internal government of the Grant Medical College, the Director of Public Instruction, and the Surgeon-General. Witness has been connected with this institution since 1882, and is of opinion that the best person

to advise Government is the Principal of the College. He knows of the exact wants of his institution. The Director of Public Instruction may exercise the usual control, but as regards the internal government of the College, that the Surgeon-General is not the best person to advise Government. The present Surgeon-General has never been a Principal in a college, so that he cannot know anything about the internal management. His advice has on several occasions been prejudicial to the interest of the College. First, there is the case of Framjee Petit Laboratory for research. The Surgeon-General advised that there was no special necessity for it. Afterwards the local profession got another donation, and wanted a laboratory; the Surgeon General advised that Bombay was not a suitable place; nevertheless Lord Reay carried out the scheme.

Recently, in order to build quarters for the House Surgeon, certain wards were removed, which were the source of our supply of unclaimed bodies for experimental purposes. The authorities have now to write to the Hospital for infectious diseases in order to get their supply of dead bodies.

During the past three years attempts were made by the Principals of the College to obtain assistant professors. The Surgeon-General, however, opposed the scheme.

A good many complaints have been made on account of the changes which frequently take place in the members of the teaching staff. If it is not possible on account of the exigencies of the Indian

Teaching staff of the Grant Medical College.

Medical Service to keep the same men as professors, there are among the local practitioners men fully qualified to fill these posts—for instance, Dr. Surveyor and Dr. Rao. The scheme of additional professors came into force in Lord Reay's time, and died away after his departure. In order to keep up an efficient staff, young members of the Indian Medical Service should be attached to the colleges and trained at Government expense in order to qualify them for professorships. The tutors employed in the College have done excellent work in different branches of their profession, and should be eligible for promotion to professorships. When witness found that he had no chance of promotion, he went to London, and obtained an English qualification. Dr. Choksi, Dr. Rao, and Dr. Surveyor are witness of gentlemen who have distinguished themselves in special subjects. Very recently one of the tutors obtained high qualifications in Midwifery, and another is going to England to qualify himself in Pathology.

Teaching of different subjects.

The witness dealt with the various subjects mentioned on pages 9 and 10 of his printed statement, expanding in some cases the remarks in that statement.

WITNESS No. 13—THE REVEREND R. SCOTT, Acting Principal, Wilson College.

The phrase "Teaching University" has puzzled people in Western India.

Teaching University.

Its meaning is dependent on local association. Our University is without qualification a teaching University. It was never anything else. The London University was for a time a purely examining body, that is to say, it gave degrees to private students. Here no student is admitted to a University examination, unless he has kept full terms in a University college, and been taught the complete course of prescribed study in a proper class room. The number of students in our Presidency capitals is so large that it is impossible to teach all (as is done in Scotland) in one University college. If it were possible, it would still be undesirable. Distinctive peculiarities should not be suppressed, and the rivalry of colleges, though it may contain elements of evil, is the chief safeguard for the maintenance of a high standard. Our system has grown up in consequence of, and in adaptation to, the circumstances and needs of the country. To attempt essential changes would be unwise. But the question is asked—"Should more be done by the University as distinct from the colleges?" In this question the

University has its technical meaning, *viz.*, the Vice-Chancellor and Fellows. These constitute the Senate, a body of changing character and opinion, and possessed of no property except the special endowments it administers and the fees it levies. Such a body cannot found a college or do anything but administer special funds. Universities should, however, benefit the public in whatever ways are possible. The University should maintain an up-to-date library for students, a museum for students of Natural Science, and well-equipped laboratories for students of the Physical and Chemical Sciences. It might institute lectureships on the classical languages not taught in colleges, such as Pahlavi, Arabic, and certain aspects of Sanskrit, lectures also on ancient Oriental systems of thought and on Archæology and kindred subjects. It might attempt occasional courses of lectures on subjects of general interest for the benefit of the general public, *e.g.*, on art, or music, or literature, or sociology. In no circumstances should it institute lectures on subjects taught in the colleges, or in any sense assume an attitude of rivalry towards any recognised institution. Such action would put the Senate in a false position, and prove mischievous. For the teaching of small advanced classes, inter-collegiate arrangements might be made with the sanction of the Syndicate, as an occasional, not general, practice. The University laboratories should be used for examination purposes and as reference laboratories open to all the professors of colleges. In every college there ought to be a certain number of appliances, but the University might have a larger number. The practical examinations are now held in the college chosen by the examiner. They are sometimes held in the Elphinstone College. No use is made of the University Library that now exists, as it consists mostly of old books. The Royal Asiatic Library is a good one, but it is not free. There is a cheap native library used by students, but it does not contain books needed for their studies.

Each full college at the seat of the University should have a representative on the Syndicate. The colleges at the seat of the University practically constitute the University. Up-country colleges may be regarded as affiliated colleges which are sufficiently honoured by affiliation. Inasmuch, however, as the Deccan College was an original part of the University, and as the Engineering College is in Poona, and as it might be convenient to have other institutions located there, the University might be regarded as the Bombay and Poona University, so that the Poona colleges would, like the Bombay colleges, have representatives on the Syndicate.

Witness does not agree with those who advocate a large reduction in the Senate. No doubt, smaller numbers are more easily handled, and with large numbers a certain inconvenience is unavoidable. But it is not the case that in this Presidency evil has resulted to education from these numbers. Annually from two to three hundred students graduate, and it would not seem much if after years of good work ten of these should receive the honour of Fellowship. Hope of this honour must tend to keep alive a graduate's interest in educational questions and in learning. The weakening of such a hope is to be deprecated. The opinion that the native graduates who are Fellows are unable to judge of the matters that come before the Senate is unreasonable. It is true that there are Fellows who have not gone through a course of study, but of these the numbers will diminish from year to year. There is another class equally unserviceable—the occasional European who takes no continuous interest in the University, but may be called forth on a special occasion by a newspaper article to record his prejudice. But no system can be perfect. It is well to encourage all distinguished graduates and all graduates that afterwards make their mark in life to maintain an active interest in the University. This cannot be done by a register of some thousands of names, or by purely honorary Fellowships, but by such an arrangement as the present which combines honour and responsibility. As far as the experience of the witness goes, native graduates do not (as some suppose) desire to lower the standard of passing. It is notorious that native examiners are more severe than European. Two hundred should be fixed as the maximum limit of the Senate. All professors of recognised colleges should have a certain status in the University, and should be entitled to a seat in Convocation.

Colleges should not be supervised by the Senate. The judgment of students is quite as valuable as that of any other body. All colleges should have a fair field, and none should be bolstered up by artificial means of gifts or rewards or other influence. In practice it is not necessary for the University to take measures to see that the affiliation rules are obeyed. If the college falls below the mark, the students will leave it. Before affiliating a college, the University should see that it has a proper staff; after it has recognised the college, it might require reports, but need not inspect. The University might use the power to give one college an unfair advantage over another. This matter should be left to the students; all the world over the students know best the capacity of the professors. Inspection might occasionally serve a useful purpose, but the balance of advantage is against it. At the back of every college there should be a strong governing body, and the professors should be above the need of inspection. The present system has worked satisfactorily for a long time, and it would be unwise to abandon it for a system the results of which have not been tried. The University cannot be regarded apart from the college. It is a collection of colleges, some better and some worse. Students tend to leave the bad colleges, and careful enquiry before affiliation will prevent such colleges from coming into existence. If a bad college can keep up its numbers by successfully examining the students, that is the fault of the examination system.

There are several ways in which the standard of education may be raised and the methods of teaching improved.

Supervision of affiliated college. The primary matter is the improvement of school education. The pupil goes through three successive stages—the Vernacular, the Anglo-Vernacular, and the High School. It is possible that more rapid progress might be made all through, but the University is concerned only with the Matriculation Examination. The revision and remodelling of this examination might, however, beneficially affect the standards below Matriculation. It is desirable that the average age of boys entering college should be increased by about one year. This can be effected only indirectly by increasing the amount of work to be gone through in schools. Perhaps it would be well to constitute an additional school standard.

- (1) *English*.—As regards a knowledge of poetry, the recent tendency has been retrograde. This matter has to be considered not only in connection with knowledge of the language, *i.e.*, the power of conversation, but in connection with the educative influence of English poetry, which is more valuable than prose for stimulating thought and for enriching the mind. It is an important element of culture, and it is a pain to be constantly finding students who are ignorant of the most familiar lines of the most exquisite poems. There should be two papers in English, one on the grammar of the language and one on selected passages of prose and poetry prescribed by the University. The paraphrase should be of an unseen passage. Students should be made to commit to memory hundreds and thousands of lines of poetry for the enrichment of their minds.
- (2) *Second language*.—As the Matriculation Examination is preparatory to a college career, a language recognised in the Arts curriculum as a second language should be a compulsory part of the examination. At present this is not so. Many matriculate without any knowledge of the second language which they must study afterwards. This tends to lower the standard of education.
- (3) *Mathematics*.—The Algebra should include quadratic equations.
- (4) *Science*.—The present arrangement is very unsatisfactory. Three sciences are prescribed for one paper, and none of them is profitably taught or studied. They are Mechanics, Chemistry, and Astronomy. Neither Chemistry nor Astronomy can be properly taught in Indian schools. There should be one branch of Science honestly taught, *viz.*, Mechanics or Dynamics with, as an alternative chiefly for girls, Botany. This would prepare the students for the Physics

taught in the college course. The general effect would be to give us students with more mature minds and more able to profit by college lectures. The Dynamics should be taught mathematically rather than experimentally. Statics and Dynamics are taught in high schools in Scotland. It would not be advisable to introduce a branch of Physics, because of the difficulty in providing apparatus. The Science does not cause many failures at present; it is recognised as a purely cram subject. There might be an improvement if the matter were represented to the Senate. The witness is not aware of any teacher having done this.

On the preliminary question whether the students have a sufficient knowledge of English to follow the lectures, the

College curriculum.

answer is in the affirmative. There is some difficulty at the beginning, especially if the professor's utterance is not distinct, and boys from country villages are at a disadvantage compared with town boys, but the evil remedies itself, and requires no special treatment.

The question whether the course is not too much a task laid on the memory, and too little a training of the reasoning and other faculties, is one that may be raised in connection with all Universities in the world. In the highest examinations in Britain the receptive and assimilative faculties tell better than the original or inventive. Things are not much worse here than elsewhere, but the following improvements may be suggested:—

- (1) In the classical languages and also in English unseen passages might (as recommended by Mr. Macmillan) be introduced. (2) The voluntary subject—Roman History and Jurisprudence—should be withdrawn. (3) Two papers on History in the B. A. (compulsory part) might be withdrawn, and a philosophical subject introduced. (4) In Languages and History the books or periods prescribed should be oftener changed. When one period is kept for a long time, synopses are drawn up and examiners cannot avoid repeating the questions. Also a new period introduces new ideas.

The chief defect of the Bombay curriculum is on the side of Philosophy. Nothing is compulsory except Deductive Logic. There is a voluntary group, Logic and Ethics. There is practically no Psychology and no history of Philosophy. In saying that there should be one compulsory paper in Philosophy (say Ethics), it is not meant that the voluntary Philosophy should be withdrawn. The subject is large enough for both. The Second Language question is one of great difficulty. Here the place of Greek and Latin is taken by Sanskrit and English. If there were only Hindu students, Sanskrit could be made compulsory. But for European, Eurasian, and Goanese students, the classical language is Latin. And for Mahomedan and Parsee students still further provision has to be made. The classical languages, Pahlavi, Greek, Arabic, and Hebrew, are at present allowed, but they are not regularly taught in any affiliated college. Two living languages—Persian and French—have been admitted, and have obtained a place from which they cannot easily be dislodged. While these two languages should be encouraged, they should not be allowed a place amongst the classical languages, but should rather alternate with some other subject, such as ancient or Indian History; or after a certain stage they might alternate with English. As regards Science, it is doubtful whether Botany and Zoology should be part of the B.A. course. But if so, the two should be regarded as constituting one subject (Biology), and a student whose voluntary subject is Science should be required to take two of these three—Experimental Physics, Chemistry, Biology.

Text-books are necessary in philosophical and political subjects which

Text-books.

are handled variously, otherwise all the students of one college might pass and all of another college fail. Of course, no professor is limited to the text-book, but students must know what they are to be examined on. These text-books are often written by the ablest living authorities on the subject.

Colleges should not be unnecessarily multiplied, and, as a rule, remote

Affiliation of colleges

country colleges should be recognised only for the first two years of study.

To illustrate: On the Gujarati side of this Presidency there are at present four full colleges. One would be sufficient, and not more than two should be allowed. The others should be half colleges. This year a college has been affiliated at Junagad for the whole four years' course. It is not possible for all the colleges to have competent equipment according to modern requirements, nor can students in remote districts attain to the culture that contact with a great city and with educated minds imparts.

Government colleges are called model colleges; but here they are poorly equipped and are the least progressive.

Government Colleges.

The rule by which the Secretary of State is said to be guided in making appointments, *viz.*, that the Professor must be a graduate of Oxford or Cambridge, is objectionable as a creation of privilege, one of many devices for confining the higher services of India to certain classes. In effect it excludes the majority of those in England who are skilled educationalists, and practically the whole of Scotland and Ireland. Graduates of Oxford are supreme in their knowledge of Latin and Greek, but in India they are not employed in the teaching of these languages. To this rule it is partly at least due that modern thought is so little studied, and modern sciences so little developed. In Calcutta and Madras the study of Philosophy is far more advanced, but this result is due to Scottish influence. So with regard to Cambridge Graduates. Our eminent Mathematicians, of whom there are two in Poona, can only carry on their life's work in private. Only a very few students care for what we call higher mathematics (which is, of course, merely elementary mathematics), and the subject has little bearing on Indian life. Much more importance pertains to the experimental sciences, on account of the various industries of the country; but of these the Government have no regular Professorships in Bombay. [The witness was informed that there is no such Government rule as he supposed and that Professors are also appointed from other Universities.]

Fellowships should be conferred for a lengthened but limited period of, say 10 or 15 years. A Fellow is appointed when he is about 35 years of age. If he

Terminable Fellowships.

is a Fellow for 15 years, by the time he is 50, his usefulness is at an end. In the case of educationalists, so long as they are connected with education, they should continue to be Fellows.

There is a good deal to be said on both sides, but on the whole the system of two intermediate examinations is sound.

Intermediate Examinations.

Without the Previous examination students would be idle in the first year. They are too young to read and think for themselves. Many students enter college at too young an age. If the standard of the Matriculation were raised there would not be so much need for the Previous examination. Under present arrangement a collegiate examination would not replace the Previous. If promotion were made to depend on it and inter-collegiate rules were prescribed to prevent a student who fails in the college examination from migrating to another college, then an inter-collegiate examination might suffice.

It is difficult to say how many hours the students work. For two or three months before the examinations they work up to midnight, indeed as hard as they can.

Physical welfare.

Not more than a third of our students go in for physical exercise. In the Elphinstone College more attention is given to physical exercise. Last year there was a good deal of illness, but the general physique is not bad. The inclination to play games is increasing. It is difficult to get grounds in Bombay.

Sir Walter Scott's poems and Pope's Homer's Illiad are very suitable books. For young boys nothing could be

Subjects in English Literature.

better; more thoughtful poems can be read by older boys. The boys often get very enthusiastic over the poems they read. Pope's Illiad is objective not subjective. Mental experiences which boys have not gone through are required for the understanding of Wordsworth.

Sanskrit.

Complaints are sometimes made that the Sanskrit papers are too long, not that they are too hard.

WITNESS No. 14—MR. K. J. SANJANA, Vice-Principal, Bhavnagar College.

[Professor Sanjana represented the Samaldas College, Bhavnagar, before the Commission. The Principal of the College had presented to the Commission a paper containing the unanimous views of the college staff.* The President read this paper and the witness was questioned on it. The following is an abstract of his replies to the questions.]

The number of the Senate may be fixed at a maximum of 200. A member residing at Karachi might perhaps be expected to come once a year. The qualifications alluded to in paragraph 5 of the note are educational experience, academic distinction or the bestowal of important benefactions.

The mofussil colleges should be represented on the Syndicate. Changes may be made in the curriculum or even in general arrangements opposed to their interests. Latterly the first term has been shortened and the change has interfered with our work. The report to the Senate stated that the Samaldas College was in favour of the proposal, but this was not the case. Had it been represented on the Syndicate, this mistake could not have occurred. The College ought to be consulted more frequently and greater weight should be attached to its opinion. If its views had been properly represented to the Senate they might on several occasions have carried the day.

More specialization and greater thoroughness is required in the B.A. and M.A. courses. The students should be taught some Science or other subject thoroughly well. In Science thoroughness is more important than width. In Mathematics the gap between the B.A. and M.A. is too wide. If the University had professors they might succeed in teaching the students the present M.A. course. It would be an improvement to divide the course as in Calcutta, i.e., one course with pure and the other with mixed Mathematics as the chief subject.

The students are about as good now as they used to be. Perhaps they read rather less; this may be due to the examinations being too extensive. It is not desirable to appoint professors to be examiners in the subjects in which they teach. Some teachers have their own notes and methods, and if it were known that they were to examine students might neglect their books and confine their study too much to the professor's notes. In witness' student days the undergraduates used to read their books and not attend to the examination papers. If this is no longer the case the fault may lie with the examinations.

There are some Sanskrit *patshalas* in the Bhavnagar State. They are not of ancient origin. They teach Sanskrit grammar and ordinary Sanskrit literature in an efficient manner. They do not confer degrees. The University Sanskrit Examination is about as stiff now as it used to be. The papers are now perhaps rather too technical.

An examination in a second language like Persian does not test the education of a student so well as an examination in Sanskrit. As Persian is taught now it is not of great educational value. If Arabic were well studied it would be valuable. In the Bhavnagar College students do not take up French, they take either Sanskrit or Persian. Many Hindu students take up Persian.

The standard of Matriculation is high enough except perhaps in English. An oral test should be required, though the size of the examination is no doubt a difficulty in the way of such a test. The great difficulty of the students is not so much in composition as in addition; not being taught by Englishmen the boys are puzzled by the pronunciation. In inspecting schools more attention might be paid to pronunciation.

The University should disassociate itself from the School Final. The Entrance Examination should be for the School Final. University alone, and the School Final for the Government alone. If this principle were followed many who now go up for the Matriculation would take the School Final.

WITNESS NO. 15—MR. G. L. M. TRIPATHI.

[Mr. Tripathi presented a written statement and a work on vernacular literature and teaching by Dewan Bahadur Manibhai Jasbhai].
See for both Catalogue of Miscellaneous papers.

Witness has taken much interest in Gujarati and has contributed to the development of the literature of that Vernacular languages. language. After much struggling those interested in vernacular literature have procured its introduction into the M.A. course. If it were also introduced in the examinations between the Matriculation and the M.A., some useful books could be found for study, but the selection must not be confined to the old literature for books suitable for modern conditions will not be found in it.

Certain defects stand in the way of the proper study of vernacular languages.

(1) *Imperfect teaching of vernaculars in schools.*—They are taught in the schools in a very imperfect way. The root of the disease is the practice of teaching all subjects in English. If Sanskrit and other languages were taught in the vernacular they would be much easier. In the fourth standard a boy is required to learn rules about Sanskrit in English. When an English boy learns Latin he derives much help from the similarity of many Latin and English words. An Indian boy loses this advantage when he learns Sanskrit in English. Similarly with Mathematics. The students do not study the book-work in an intelligent manner simply because they do not understand the language in which it is written. When witness studied for the Matriculation Examination he had a good knowledge of English. He was therefore able to translate the mathematical book-work into the vernacular and to really understand it. English should be studied as a second language in the schools and there should be a double Matriculation. First of all there should be an examination by the headmaster in the vernacular, and then if the boy is sufficiently advanced he should study his subjects in English and then present himself for the Matriculation Examination. The present system is one of learning by rote and cram. Witness' knowledge of English enabled him to do his Matriculation work very quickly. Witness knew of one instance in which a student pursued his studies in the vernacular so successfully that he was able to do all his English studies for the Matriculation in a year and a half. At an early age the study of English as a classical language should be begun and less distinction should be drawn between the vernacular and English schools.

(2) *Excessive burden of study and defective methods.*—If the burden is increased by fresh studies something else must give way. The Mathematics can be reduced. As now taught the work is here cram. In Euclid the propositions are merely learnt by rote. Instead of the present four books it would be better to study one only and understand it properly. Similarly in Arithmetic a boy does not know that addition and multiplication are connected with one another, or what is the meaning of the formula by which he works out examples in stocks. When witness examined in Gujarati his difficulty was to make the students think and understand. They could not apply definitions or explain the passages they read. There is so much to cram into their brains that they have no time to study properly. The only way to teach is to put questions to students and exact answers, so as to see what they have understood. In certain colleges professors dictate notes, with the result that when the examination is about to take place the students run about inquiring who are to be appointed examiners and after ascertaining get the examiners' notes and cram them up. There is no hope of improving the teaching unless you can get independent professors not connected with the colleges to examine. College professors are narrow-minded and think too much of their own colleges and

methods of tuition. Witness agrees with Mr. Scott that students know who are the best professors. Mr. Scott is, however, wrong in thinking that the efficiency of colleges is secured by the law of supply and demand. A student may go to one college for its English knowing that the Sanskrit instruction is bad. He cannot help himself, he wants the English. The best students of the colleges (*e.g.*, the Dakshina Fellows) might help in the choice of professors. It would be an improvement to have a professional faculty in the University.

It is not a great misfortune that there is not at present so much knowledge of the popular vernacular. It is an impure rather than a pure vernacular and it ought not to be encouraged. A more diffused knowledge of Sanskrit would improve the vernacular language. It would be a disaster to enforce the study of the vernaculars and not the study of classical languages. But if the burden can be lifted in some other direction in order to introduce a little vernacular study, that would be a good thing.

The present method of study in English is not sound, there is too much technical grammar and not enough language. Both teachers and examiners are to blame for this. In Sanskrit it is not so bad. Some parts of the Sanskrit grammar are essential. Under the old system of learning Sanskrit there was less grammar. Some parts of Dr. Bhandarkar's works, which are now in use, are not required for the study of ordinary literature and might be left to a later stage in the course. Another defect in the present Matriculation Examination in Sanskrit is that unseen passages are set which B.A.'s could not understand. This unnecessary severity has scared away many candidates. The amount to be studied is so great that it injures the health and spoils the student for his other subjects. When Dr. Bhandarkar says that there has been no decrease in the number of Sanskrit students he calculates on a wrong basis, he should have regard to the proportion not to the actual figures. It is the severity of the Sanskrit examination that makes candidates take up Persian and French.

In a letter, dated the 5th March, Mr. Tripathi sent the following explanation with reference to his evidence:—

“I had given it as my opinion that there should be a double Matriculation, one an examination in all subjects through the vernaculars and another after an interval of a year or so in the same or an extended group of subjects through English. By this I did not mean that the study of English should begin after the vernaculars and be finished before the English examination in the interval. I only meant that English should be taught through the vernaculars as any other classical language and should form part of the vernacular examination like all other subjects, and that its study by itself and without the medium of the vernaculars should begin only after the vernacular examination. Its study through vernaculars would of course go on in that case for years and by standards like the study of any other subject before the vernacular examination.”

WITNESS NO. 16—MR. J. E. DARUWALLA, Acting Principal, Gujarat College.

As most of the students receiving higher education in this Presidency belong to the mofussil colleges, it would be inexpedient to establish a Teaching University unless the University Professors could go round to the different colleges to deliver their lectures. It would be better to strengthen the existing Government and aided colleges.

The grant the Gujarat College receives from Government is one quarter of the amount expended out of the provincial funds on the Deccan College, or even less. Owing to want of funds the college has got no separate Professor for Logic and Moral Philosophy. There is one teacher for both Physics and

Chemistry. There is no provision whatsoever for Botany and Zoology. Again, the Principal has more work than can be done by a single man, because there is no additional English teacher. The grant of ₹10,000 from Government is too small for the college. Government is also more liberal in the matter of scholarships to the Presidency than to the Gujarat College. The latter received scholarships to the value of ₹1,000 in 1896, 1897 and 1898, but owing to financial pressure the grant was then stopped, and has not recommenced. The income of the college is made up as follows:—Rupees 10,000 from Government, ₹12,000 interest on endowments, ₹3,000 from the Municipality, and about ₹12,000 from fees. Students are charged ₹30 a term, and there are two terms in the year. The Deccan College gets from ₹10,000 to ₹15,000 in fees. The college students there are about the same number as in the Gujarat College. In the Deccan College the fees are ₹30 a term in the previous class and in the higher classes ₹40. The Government refused a short time ago to give the Gujarat College a grant for scholarships. The Collector of Ahmedabad has a double function. He is President of the College Committee and also Collector. In his capacity as President he wrote to Government asking that a scholarship grant might be given; in his capacity of Collector he replied that the Gujarat College was in a very favourable condition, that there was no reason why wealthy citizens should not come forward to help the college, and that there was no necessity for the proposed grant.

The Senate should be largely composed of College Professors. Fellowships should not be vacated by non-attendance at meetings. The Mofussil Colleges should be properly represented. There should not be more than 100 members because more than 50 qualified Professors may not be available. One-half the Senate should be composed of Professors and the other half of distinguished Graduates.

The advantage of terminable Fellowships is that they will cause Fellows to take greater interest in higher education, because they will know that they will be deprived of their Fellowships after five years, if they do not work for the University.

No radical change is needed. The number is convenient, but the Mofussil Colleges ought to be represented. The majority of the students are from the mofussil, and if the Mofussil Colleges do not have a voice in the University business, the interests of such colleges may be overlooked. This is specially the case in the matter of examinations, with regard to which the Gujarat College is not well treated.

There are also other grievances. On page 311 of the University Calendar, the rule is laid down that no scholarship holders as such should be exempted from the payment of fees. This rule is obeyed in the Gujarat College, but is practically ignored in some other institutions. For the sake of fairness there should be uniformity in such matters. The Baroda College recently asked for permission to receive as a scholar a first class student of the Gujarat School. Witness agreed but at the same time stated that the Gujarat College did not give scholarships to the students of other colleges. Students are in the habit of migrating from one college to another. There is an understanding among colleges that they must bring with them a certificate from the college they have left. Recently some students came from a new college to the Gujarat College and did not have any certificates. Some years ago when plague broke out, a student came to the Gujarat College from a certain Bombay College which refused to grant him a certificate because he had been a scholar. The Director of Public Instruction took serious notice of this refusal. The University has no rules about transfer certificates. It should exercise more control over the matter.

Professors should be consulted through the Principals of the Colleges on the selection of text-books. The Reverend Dr. Mackichan said that this is frequently done by the Bombay University. The witness remarked that he had acted off and on as Principal for a year and a half and had known of only one instance.

In the B.A. Course about nine or ten years ago too much stress was laid upon optional subjects. Now the University goes in too much for compulsory subjects. There should be neither too much specialisation nor too much insistence on general knowledge. In certain walks of life, general knowledge is more useful, in other walks of life specialisation. There should be four papers in compulsory and four in optional subjects. Formerly there were two compulsory and four optional, now there are six compulsory and four optional. The three compulsory papers in History and Political Economy might be reduced to one. The standard in the optional subjects should be high. Seeing that there are already too many compulsory papers, it would not be advisable to make Philosophy compulsory.

Fellows should be elected by Professors of Colleges, M.A.'s, M.B.'s and M.E.'s of not less than five years' standing and other graduates with honours of not less than 10 years' standing. That would restrict the number of electors and at the same time give greater efficiency. To a certain extent graduates do not at present exercise their voting powers intelligently, but that defect would be diminished by eliminating graduates who have not taken honours. The qualifications of the candidates should be the same as those of the electors. As long as Government nominates graduates of other Universities they need not be eligible for election. On the whole, the graduates have not exercised their powers badly, but there is considerable personal canvassing. A good many graduates of ability who ought to be in the Senate do not put themselves forward as candidates for election because they find that other people less deserving are going to canvass. On the other hand, fairly competent men have been elected and the system has, on the whole, not worked badly. There is also a certain amount of manoeuvring for Government nominations. Except Muhammadans the various communities have been fairly well represented in the elections. The graduates have not, however, elected a sufficient proportion of persons engaged in education.

The present standard of University examinations is, on the whole, neither too high nor too low. If a Teaching University is established, only first rate men should be brought out from England, and some professorships should be restricted to those who are engaged in actual research.

Students find difficulty in following lectures in the Previous class, and it is necessary to work a little more slowly than in the other classes. In schools the boys are accustomed to mere mechanical work, and in college they find the system and the teaching different. Sometimes they are unable at first to understand European lecturers. On account of all these reasons students cannot always follow lectures in the Previous class. In the Intermediate and B.A. classes they are all right.

At school boys must to some extent be taught mathematics in a mechanical way. Their minds are not sufficiently developed to grasp the theory of mathematics. Some students find it a great difficulty even after finishing the course for the Previous examination.

In the Gujarat College there is apparatus to the value of Rs. 6,000 and enough practical work is done in the class. The students are too poor to buy their own apparatus and chemicals. The students are very seldom asked to handle the apparatus.

More than one-third of the students in the Gujarat College come from Ahmedabad, between one-fourth and one-fifth from British territories, and less than one-third from the Native States. Forty-three per cent. are Brahmins, after the Brahmins come the Banias, and after the Banias the Jains. On an average in the last six years there have been ten or eleven Parsees. Two lady students passed last year, and there is one lady student at present in the college.

The college has about 23 scholarships. Of these 7 are closed and the remaining 16 are open to all communities for competition. The highest scholarships are only R15 in value. The scholarships as compared with other colleges, especially Government Colleges, are very very small. They are almost all from private endowments. The eight Government scholarships are still called Government scholarships, but are paid for from college funds since the Government grant for them ceased.

Endowments.

The college has two lawn-tennis courts, a gymnasium and a large cricket field, and the students also go in for football and badminton. In 1900 the college defeated the Baroda and Bhavnager Colleges in football. Last year it was champion of the Northern Division.

Physical Exercise.

There are two hostels belonging to the college accommodating 84 students. The buildings cost R1,92,000 including the new building, excluding it the cost was R1,76,000. Government only paid a half of the R1,76,000. The first hostel was built in 1897.

Hotels.

The college tries its best to inculcate habits of order, discipline, industry and truthfulness in the students and impresses upon them the necessity of practising moral virtue both inside and outside the college. The college students and graduates are better than those who have not received the advantages of higher education.

Moral Welfare.

The Professor of Sanskrit this year teaches Logic and Moral Philosophy in addition to his own duties. He knows Sanskrit, but has not passed in the subjects of Logic and Moral Philosophy. This is not satisfactory, but a better arrangement cannot be made with the available funds. It would be well if the University took notice of such an arrangement; the college would then move the Government to supply more funds.

Instruction in the Gujarat College.

WITNESS NO. 17—The Hon'ble Mr. P. M. MEHTA.

Mr. Mehta presented a printed * statement to the Commission which he read and with reference to which he was examined. The following is an abstract of the replies he gave :—

*** Paper No. 8 in Part II.**

No scheme for teaching in some centralised manner is practicable in so far as the Bombay University is concerned. The difficulty lies in the character of the existing colleges, which are mostly aided. They would hardly submit to any rules of centralisation, for such rules would interfere with their independence of action. The relations between the aided colleges in the Bombay Presidency are at present harmonious and friendly, but there was a time when this was not the case, and it may not always be so in the future. If University professors are appointed private colleges would have to give up their professors in certain branches. In subjects such as literature and history some of these colleges have their own ways of teaching and they might not approve of the University method. There is advantage in the variety of method which results from the present system. Men bear the distinct stamp of the colleges in which they have been educated. The above remarks apply mainly to the B.A. course. It would be an advantage to concentrate post-graduate study. For the B.Sc. there would not be the same objection as for the B.A. except that the colleges like to have a complete staff. If laboratories and science instruction were concentrated it would be economical and might conduce to better instruction, but there would be a loss of variety in teaching. If one could obtain a University professor of a higher class than the present college professors the scheme would be an improvement, but it is doubtful if this result would follow. Advanced instruction has languished principally because there is no sufficient inducement to the students. There is very little opening in trade and industry for the Indian scientist. There is, however, an increasing tendency on the part of the mills to employ Indian graduates.

Teaching University.

It is necessary that there should be a certain amount of outside representation in the Senate because it brings the

The Senate.

University in touch with the outside public to whom it owes a very large number of its endowments. The outside members should be men of culture and able to deal with University problems—men like Mr. Tata. The preponderance should be of men with degrees, but it is a mistake to have too large an element of direct educationalists. As a rule Europeans come forward only when there is some controversy going on. The largest attendance was a few years ago when there was a proposal before the Senate to increase the number of examinations to be passed before graduating. Europeans would have much more influence if they attended meetings regularly. The Senate always pays great respect to the European members and it is with very great care that it differs from them. There was a time when European gentlemen had very great influence in the Senate, *e.g.*, Mr. Latham, Mr. Jardine, Mr. Piggot, and others. The complaint of over-talking is made not only with regard to the University but with regard to various other public bodies. The charge is very much exaggerated. The proportion of lawyers in the Arts Faculty (78 out of some 200) is not greater than it should be, because lawyers take a very prominent part in public affairs. The best of the B.A.'s go in for law and the pick of these belong to the Senate. The lawyers are more regular in their attendance than other classes. Educationalists on the other hand are less regular in their attendance than the majority of the fellows. This is not because they find themselves outvoted and their opinions neglected. It is very rarely that this has occurred. On one occasion they afterwards admitted that the majority was right. The other occasion was the proposal for examination by compartments.

Mr. Justice Ranade brought forward the proposal for examination by Com-

Examination by Compartments.

partments on two main grounds: (1) He maintained that the severity of the course injured the health and shortened the lives of the students. The statistics on which he based his arguments were not reliable and witness did not attach great importance to this portion of the argument. (2) It was contended that the change would tend to diminish cramming and would give students more time for general reading. The student should go up for all the subjects, in the first instance, and those in which he passes with credit need not be taken up again. Otherwise he has to devote a good deal of time for revision and has the less time for his other subjects. The strain on the system would be less, and with a rational system of instruction preventing idleness the system would give better men. A higher minimum might be required in each case. The alternative of requiring the student to take up each subject separately would not be sound. Those who are able to do well in all subjects should be allowed to pass at once.

In this case at any rate the decision was not the result of canvassing but of long and careful deliberation. There

Canvassing.

is some canvassing for the elections but not to any very great extent. Notes are sent round to graduates asking for their votes. It is desirable to put down any canvassing over and above a reasonable extent. To a certain extent pressure is brought to bear on the electors.

The Government and the electoral bodies will appoint a sufficient number of educational experts and it is not necessary to appoint them *ex-officio*. It would

Ex-officio sanction.

not be desirable to make professors *ex-officio* members of the Senate as soon as they take up their appointments. There would be no great objection to making principals of colleges *ex officio* members. The electorate body is composed of graduates of the different colleges who would not be likely to pass over their own principals and professors.

It is not desirable that there should be a preponderance of the educational element in the Syndicate, because despite

The Syndicate.

the harmony that prevails among colleges there is keen competition among them. Every college is desirous of showing that its results in the examinations are better than those of other colleges, and unconsciously they advocate measures which enable them to turn out a larger

for the license the present curriculum for the L.M.&S. should be left and no higher preliminary qualification required than the Matriculation Examination. In other places such as London, Dublin, Edinburgh, Lahore and Madras provision is made for two sets of medical qualifications, a higher and a lower. In some cases the University gives both, but in London, Dublin and Edinburgh the University confers the degree of M.B. or whatever it may be called and the license or lower qualification is conferred by the Colleges. Witness could not say, supposing there were two classes at Bombay, what percentage of students would go to the higher, and what percentage to the lower examination.

Witness filed the following statement showing the number of students of the Grant Medical College in the first, second and third year's course, in accordance with their qualifications in Arts :—

	Third year.	Second year.	First year.	TOTAL.
Matriculates	134	147	102	383
P. E.	4	18	17	39
F. A. (Calcutta)	3
Intermed. B.A. and B. Sc.	3	1	...	7
B. A. and B. Sc.	6	3	1	10
M. A.	1	...	1
TOTAL	150	170	120	440

A man who passes the Matriculation well, will certainly know more English and will probably be a better man than one who has scraped through the P. E. The percentage of marks required to pass the P. E. is 30. Men who pass the Matriculation with a high percentage are undoubtedly better able to follow the lectures.

Latin is necessary for Science students, certainly for medical students. The college warns intending medical students to take up Latin, but does not insist upon it. Witness would rather not take any body into the Medical College who had not studied Latin. Recently the London University has discontinued Latin as a compulsory subject and the medical journals have attacked the University vigorously on the point. Witness cannot understand from what motive the London University has taken this course.

Witness is not sure whether the Scotch Universities at present accept the Bombay Matriculation. The acceptance and non-acceptance have varied greatly from time to time. Witness thinks that the General Medical Council has given up accepting the Bombay Matriculation, but their requirements also vary constantly.*

The difference in the course for the M. B. & L. M. S. might be a difference in the length or a difference in the percentage of marks. Witness would be inclined to favour a different standard of examination. There would be no objection to the L. M. & S. being an inferior M. B. There is need for both. The L. M. & S. should be for men of inferior general and professional culture, but able to study science with intelligence, and the M. B. for men of superior general culture and with superior professional training.

The age for the Matriculation should be fixed at 15. At present there is no age limit and this enables students to leave school earlier than they should, and when they enter college they get less physical exercise. If they stayed longer at their schools they would benefit physically. A boy can begin his medical studies at 12, so as to become a full-blown medical practitioner at 17. Sixteen is the limit for Matriculation in Europe, but boys mature a little earlier in India, so 15 would be a suitable age. Eighteen is about the average age at which a student enters a Medical College in England. In England a student must be 22 before he can get a license to practise from the Royal College of Surgeons.

Repeated attempts have been made in the Bombay University for the last ten or twelve years to change the present curriculum by substituting the M.B. for the L.M.S., but the attempts have failed owing to opposition in the Faculty and the Senate.

* A reference to the Regulations of the General Medical Council for January 1902, showed that the Bombay Matriculation is accepted.

The Medical College is under the dual control of the Director of Public Instruction and the Surgeon General. This is entailed by circumstances. The Surgeon General has entire control of the Military Assistant Surgeons class. The Director has not much to do with the management. There might be a conflict of views between the two authorities.

There has been very little change in the staff since witness has been in the Grant Medical College. He has been there thirteen years, Dr. Childe, ten or eleven years, Dr. Dimmock, seven or eight years. Short leave is given as much as possible during the vacation months, so that the work may not be interfered with. When long leave is taken a substitute has to be provided. Substitutes are procured who do the work sufficiently well. Chemistry is a separate department. When Dr. Barry was at home for a year his place was taken by Dr. Burke who proved an excellent substitute. Witness is not aware to what extent encouragement is given to young officers to specialise. In Bombay there are young men of the service who have specialised in Bacteriology or in the Plague Laboratory. Witness is also not aware whether encouragement is given to young officers to take up a special line of study at home so as to get themselves up to date. It would be a great advantage if this were done. Witness' understudy is at present studying at Cambridge in Physiology. No special privileges for doing so are given him by the Government.

The first examination in Medicine is passed at the end of the second year and the third examination at the end of the third year, so that there is only one clear year for Physiology and Anatomy, two big subjects, and in the third examination there are in consequence a good many failures. First year students do not begin with Anatomy. They take up Chemistry, Botany and Materia Medica. Students do not attend lectures on Physiology and Anatomy until the second and third years. All students enter college at the same time, in January.

On the proposal to introduce an M.B. degree the opposition in the Faculty was slightly stronger than the party favouring the change. There was an attempt made to get superior degrees whilst retaining the present standards. If we have the M.B. Degree we must also have the qualifications appropriate to it. There are a number of men in the Medical Faculty who have no medical degree of this University. They were appointed before the University degree was instituted. They do not form an opposition. The main line of division was with regard to the preliminary qualification. Some who resisted the change with regard to the preliminary qualification were in favour of a higher standard of professional examination.

There are appliances for teaching science practically in the Medical College. Recently there has been a considerable development in this direction. Witness does a large amount of physiological demonstration work. The students take an interest in practical demonstration, but show some dislike for the trouble involved in doing practical work. Witness did not remember clearly the nature of the opposition to the M.B. Degree in the Senate and suggested that Dr. Mackichan would probably remember more about it. Dr. Mackichan said that as far as his recollection went the opposition was almost entirely on the question of the initial qualification. It was held that an effort was being made to make the initial qualification in India higher than that which obtained in England. Therefore the Senate resisted the proposal to raise the preliminary examination from the Matriculation to the Intermediate. Witness said that experience had shown that a higher class of students was wanted and the medical experts went to the University and failed to get what was required. The Professors of the Medical College were not unanimous as to what exactly the entrance qualification should be, but all were agreed that it should be raised.

The composition of the Senate is such that the voting of that body is often influenced by considerations other than the merits of the question. Witness preferred not to specify these considerations. Personal popularity was an instance,

The opinion of experts is sometimes controlled by non-experts. The size and composition of the Senate renders it liable to personal influence. The remark does not apply to any one particular class or community. It applies to all classes. A large number of people record their votes on subjects with regard to which they have no interest or special knowledge. It is therefore possible that arguments on general grounds may carry more weight in the Senate than arguments on special grounds based on the experience of experts. Witness repeated that he would rather not specify instances of these personal and general considerations. He might have to attack personal friends or other members of his college. Witness did not know what remedy should be applied.

It would be possible for the Syndicate to look out for men and offer them examinerships instead of inviting applications. Good men do not refrain from applying under the existing system. There is no pride about it. Witness applies for an examinership when he wants it. The opinion of the Medical Syndics is in general accepted with regard to the appointment of medical examiners.

If a man does very badly in an examination it would be desirable to forbid him to appear at the next examination, only if there were bi-annual examinations.

Supposing there were a really good College of Science run by the University or other agency, there would be no objection to medical students receiving their science training there before they entered the Medical College, but every College, including the Medical College, should be free to teach science if it wishes. An argument against removing pure science teaching to some other college is that it is desirable to bring the students in touch with the wards of hospitals as soon as possible.

Mr. Justice Chandravarkar said that Colonel Dimmock had suggested that junior members of the Indian Medical Service might be appointed to lecture on different subjects under the professors, and asked the witness whether he did not think it more important that graduates who have made their mark in the University should be given a similar chance and appointed to teach under these professors. The witness replied that it would appear to be a matter for the consideration of the Government. There are some of the Bombay graduates who are extremely able men and who are quite capable of teaching.

WITNESS NO. 21.—MR. M. J. JACKSON, Principal, Dayaram Jethmal College, Sind.

Witness said that in addition to minor points there were three main points on which he wished to lay stress :—

- (1) The University as a whole is dominated by Examinations to an excessive degree;
- (2) Science is greatly handicapped in the University; and
- (3) the system under which the Sind College is governed is not an ideal system.

In Sind the Dayaram Jethmal College is in a small way the teaching Relation between the Sind College and the University. It is recognised in Arts and Science by the University of Bombay; it has a small engineering course of its own and a small law class teaching up to the first LL.B. In fact the college does all that a University ordinarily does as far as it can except in Medicine and Agriculture. There is a great advantage in having a number of courses under one roof and the college is able with a comparatively small staff to make some provision for students in numerous branches. The college has really very little to do with the University of Bombay. Practically the University by its examinations prescribes the work that the students of the college are to do and by laying down laws as to attendance facilitates its discipline. In other ways the college is sometimes

inclined to regard the University as almost a hindrance. For instance, there is some difficulty if a student has not quite kept his terms, that is to say, has not put in the requisite number of attendances. Reference has then to be made to the University, and there is sometimes considerable trouble in getting the student admitted. Colleges are not allowed to make up any little deficiency without asking the University, but practically they not uncommonly do so by counting even Sundays as days for University purposes. Witness has never done that though he has been asked to do so, but he has often counted holidays. There should be some more definite instruction from the University as to how terms should be kept. One case occurred about ten or twelve years ago which caused a good deal of correspondence. A particularly deserving student had virtually kept his terms. He was required to keep 80 days, and witness was able to certify that he had kept 78 days and that he should be considered as having kept the term. By an oversight this student was actually allowed to sit for the examination before his exemption was declared, and the University afterwards refused to declare his results, although witness sent in a strong recommendation and afterwards found that he could even give him four more days, on which the college had been closed. It would be some advantage if a college were able to settle such a point itself. There has also been a little difficulty with regard to the law class. Through an oversight the recognition of the class, which was recognized for two successive periods of five years each, was allowed to expire this year, and witness does not know whether fresh recognition has been granted and whether, with regard to certain students who have appeared for the examination, their results have been declared or not, notwithstanding that it is several months since the examination was held. In such small matters as these one thinks hard things of the University. Otherwise the college has little to complain of and really very little to do with the University, so that all those matters which are included in points 5, 6 and 7 do not particularly concern the college.

Witness is not an authority competent to say whether it is satisfactory that

Legal Instruction.

in the law class one teacher should take all the subjects. The man in the law class of the Sind College does the work sufficiently well. For a time there were two teachers, but one does just as well. Generally throughout the University the law lectures are treated, as in England, in a rather perfunctory manner. Witness has heard, though not recently, of the suggestion that some specialist, say in Hindu law, should deliver lectures of an original character in place of the present system of general lectures on the prescribed subjects. Such a change would be a move in the right direction, though it would crush the law class in Sind. That would not be a misfortune. It would save some expenditure and other subjects might be better developed. The Professor of Law does not give his whole time to the teaching of the subject; he is a pleader practising at the Bar. It would be much better if the law classes began after the B.A., and if the subject were removed from the optional list of the B.A. Examination. A fair proportion of those who follow the B.A. go on to law studies. The inclusion of Law in the Arts course interferes very much with the proper constitution of the course.

The prescribing of text-books is now overdone. The students always want

Text-books.

to have a text-book and to stick to it through thick and thin, and if possible to be examined in nothing else. It would not be advisable to do away with the text-book, but it should be clearly laid down that the work should be regarded only as a general landmark indicating the nature of the examination, but that it will not be rigidly adhered to. It should be "recommended" and not "prescribed." Half the marks might be devoted to unseen passages of English and questions of a general character. There should be text-books for science and sometimes two might be recommended. The following are examples of how text-books are prescribed. In the Previous last year the English book was the "Vicar of Wakefield." This year there are three of Macaulay's Essays and the "Lives of the Poets" by Johnson. The Vicar of Wakefield is a very good book, but it is a little below the standard; the other books might very well form part of the B.A. course. In no two successive years is the same standard of

text-books prescribed. The fault lies not in the system of prescribing text-books, but in prescribing text-books which are of such varying degrees of standard. Of the two systems of a prescribed text-book and a prescribed syllabus with recommended text-books, the former would encourage the students to cram up the particular text-books prescribed, and the latter would encourage them to go in for general reading and to understand the subject properly. Take a particular example—Balfour Stewart's *Physics* is prescribed for the Intermediate Class. It is a very good book as giving a general idea of the subject. Witness' class find terrible fault with him, because he does not go through the book *seriatim*, and sometimes refers to other authors and leaves some parts of the book out. It is not necessary to have a text-book in order that the student may know what will be the subject of the lecture, but the teacher should intimate beforehand what he is going to talk about next. Without that the students cannot follow the lecture properly. Students are slow in grasping a lecture, so that the lecture is considered a matter of secondary importance and the text-book is brought more to the front. In *Physics* questions are set to an appalling extent from the text-book. The examination in *Physics* in the Intermediate course in Bombay is nothing less than a farce. Students often pass who really understand nothing about the subject. Balfour Stewart is a book that can be learnt by rote, and the questions are so largely based on the text as to allow students to gain many marks for mere memory work. As soon as anyone introduces a reform in that respect, there will be a great slaughter of the innocents in the Intermediate Examination.

The papers in the B. Sc. are not open to this objection to nearly the same extent, but very few students go up for that examination. Even in the M.A. text-books are recommended. In some other subjects there is a difficulty of another kind. Enormous lists of text-books are prescribed. The list in Moral Philosophy and History is a tremendous one. The college has to buy all these books because the students cannot afford to do so.

The complaint about the percentage of passes does not apply to the Bombay University. The percentages are steadily rising. The percentage in the Sind College is about 70, and so all through the University. The Sind College is rather strict about granting certificates, and it has a good many examinations or test papers, by which it is possible to judge whether a student is fit to be sent up from the college. Students are rarely kept back except in the Previous class, and the college results and those of the University agree very well. This year there was an unusual coincidence. The College sent up 60 boys for the Previous. Of the first 40, 36 boys passed and of the last 20, 2 passed. Witness has never stopped promotion at the end of the third year. B.A. students are never kept back, Intermediate students are sometimes kept back but not often.

The real crux of the University problem is whether the present system of examinations should be retained. Higher education is overridden by an elaborate system of examinations comparable to nothing but the Chinese system and leading to nothing but cram. That evil is always before us in the colleges; there is a constant struggle to suppress cram. That is the real canker in our University system, and all other subjects the Commission is enquiring into are insignificant in comparison with the suppression of cramming and the over-domination of examinations. It is very hard to know how to suggest an improvement, but if one is prepared to meet the matter in every direction improvement must follow. For instance, in Mathematics in England, an average school boy will probably despise the propositions of Euclid thinking that he can do them a little before the examination and will try to solve problems. Here it is quite the other way. Students learn the text of Euclid by heart, and if a paper is set so that he can get pass marks out of the text he will be almost certain to pass. The remedy in this particular case is to set a larger proportion of problems (which should be of an easy character) than would be set in England, so that the papers in Mathematics will really seem harder than English papers. At present the Bombay University examination papers look very hard for the Previous and Intermediate; but they are not really to the students as hard as they look.

A rule prescribing that not less than 60 per cent. of the marks in Geometry and not more than 30 per cent. of the marks in Algebra and Arithmetic should be assigned to book work, would enable all the students to pass.

In reply to Mr. Justice Banerjee the witness said that he would not go so far as to say that English boys despise doing book work, but in proportion they do problems to a much greater extent than Indian students. The latter is far more patient and plodding and devotes his time to study while an English student would prefer to idle. The mischief is that a student in India asks himself what is best worth learning and what will lead most easily to the passing of examinations and the acquiring of a B.A. degree. It may be partly due to the fact that problems set in the earlier examinations, *e.g.*, the Matriculation, are more difficult than problems set at corresponding examinations in England, and that the time allotted to them in the examination is too short. The problems should be easier than those now given. To a certain extent the difficulty of the examination papers in Mathematics may be a partial cause of cram. As another instance, a student, although he may know a great deal of the theory of logarithms, cannot use a logarithmic table. Students are provided with tables of logarithms, and they will not use them although they are almost sure that logarithms will be set in the examinations.

The following is an instance of a bad examination paper. Witness once looked through an old M.A. paper in Chemistry which contained some very difficult-looking questions. They were set in the following way. There is a very old chemistry book, Millers' Chemistry, in three volumes, the more important parts of which are in large print and the more out of the way parts in small print. Half that paper was set from the small print. That would be the very thing students would cram up. The same sort of thing is to be seen in many examinations.

The Matriculation papers in English in the Bombay University do not tend so much to cram, but the system of cramming is very much resorted to. The English paper on page LXXV of the Calendar was examined. Witness thought that certain things in it might be crammed, but on the whole he would be contented to correct the paper and distinguish the erammer from the non-erammer.

The evil lies at the door of both teachers and examiners.

People have got accustomed to the present B.A. course, but it is not an ideal one. Before the course was introduced there was what may be called a tentative scheme in force in which a candidate had to take up all the following subjects for the B.A.: English language and literature, a classical language, English and Indian History, Mental and Moral Philosophy, Political Economy, Physics, Mathematics and Chemistry. If he wished to take up Science, he had no choice; he had to take up all these subjects. The idea then was to require general proficiency and no special proficiency in a particular subject. Although the tentative scheme was greatly improved, there is still neither sufficient gradation in the course nor sufficient opportunities for specialization.

Students improve very rapidly in English in their first year at college. Students have a difficulty in understanding English especially as spoken by Englishmen for the first few months, but they very rapidly improve in that respect.

As taught in the Bombay University neither classical nor vernacular languages have very great educational value. They must form part of the Arts course, but they do not seem to have the same value as Greek, Latin or French have in England. The above remarks do not refer to Sanskrit, about which the witness has had little experience as the Sind students all take up Persian.

Science students are heavily handicapped in the Bombay University. In the old days students were obliged to take up some Physics for the Previous Examination, but that has been done away with. Students in their first year ought certainly to study some form of experimental Science. They are supposed to

study some Science for the Matriculation, but they have none in the Previous, and resume it in a perfunctory manner in the Intermediate course. In the Sind College weekly lectures on Science are given in the first year, but the students do not like it.

In the B. A. stage the University course is drawn up so as to favour the students who take up Literature or Law. It is difficult for students to study Physics and Chemistry, both practically and theoretically, along with the other subjects they must take up for the B.A. course, namely, History, Political Economy, and a second language. It is no great difficulty for a student to take up Literature as his voluntary subject, for it is allied to his compulsory subjects. There is a much greater gap between the compulsory subjects and Physics and Chemistry than there is between those subjects and Literature, Languages or Law. Students who take up such subjects are therefore favoured by the present course, whilst students studying Mathematics or Science are put to a disadvantage. Witness does not encourage students to take up the B.A. course in Science. If they want to go in for Science, they are helped as far as possible, but the best of the students take literature or some other voluntary subject so as to avoid the mixed course.

On the whole the London system of separating Arts and Science would be an improvement, but there is this difficulty, that Indian students ought to have more Arts knowledge than he would get if he took up the B. Sc. course at once.

The difficulty in making Mathematics, Logic or Philosophy compulsory in the B. A. course, for the sake of the training these subjects afford, is that the course is already overburdened with compulsory subjects. History might perhaps be relegated to the Matriculation course.

The Bombay University should do more to provide high Science teaching. It is most extraordinary there should never have been a regular Professor of Science—Physics or Chemistry—at any of the Bombay colleges except the College at Poona. The defect might be supplied by improving teaching in the Government College or directly by the University. A Science institution in Bombay managed by University Professors would replace Science in the Bombay colleges, but it would not help the college in Sind.

The objection to the institution of a College of Science in Bombay is that it will crush out the little Science that exists anywhere outside Bombay. With a well-regulated course for a Science degree, the subject might perhaps be omitted from the Arts course. Witness has not given much attention to the point.

If possible, it might be a good thing if students' names did not appear on the papers as they do at present. If an examiner knows anything of a student, he can hardly help being influenced in some way, either in his favour or against him. The omission of the names would also give greater confidence to the students. They have an idea that it is an advantage to have particular examiners. This is not well founded, but everything should be done to make students think that it does not matter who his examiner is.

Grace marks should be discouraged. This University has an excellent rule that if a student gets 45 per cent. of the aggregate marks, he can be allowed to pass even if he fails in one paper. That is going far enough. A student not near the border line will pass, and a student who is very near the border line should take his chance. If he has not earned the marks, they do not belong to him if given by way of grace.

On the whole witness would retain the Previous examination, though he would not greatly object to its abolition. It makes the students work. The third year men who are working for the B. A. and who have no examination before them are rather idle. It is a great pity that education should be examination-ridden, and that it should be necessary to stimulate the students by examinations, but when the stimulus is removed they do not work. The third year students are the idlest in the college. College tests might be substituted for the Previous

examination, but that would throw a certain amount of work on the college. Tests are also unpopular things and private influence might be brought to bear, if they are left too much to the colleges. There would be great advantages in substituting for frequent University examinations college tests and class exercises held regularly at short intervals, to which values should be attached for determining the students' right to be promoted to the next higher class. That would be quite satisfactory, if honestly worked out everywhere, but if one college lets students through easily while another keeps them back, there will arise a great difference in the popularity of the two.

Students would be in favour of passing in compartments if they thought it would make examinations easier. If the percentage of marks is raised sufficiently, the compartment system might be a good one. But taking up subjects one at a time would not prevent cram, rather the contrary.

The other day a witness said something against reckoning by the percentage of passes. The percentage of passes is about the only thing by which a Principal can get some sort of idea how a college is doing or how a particular class of students are getting on. The Government attitude is rather to lay too much stress on the absolute number of successes and not enough on percentages. The witness was, however, right in saying that the classes should be noticed as well as the percentage.

There should be an age limit of 15 or 16. Candidates ought certainly not to be allowed to go up for Matriculation before the age of 15.

Good men are not prevented to any great extent from examining through unwillingness to apply. It may, however, sometimes happen. For instance, a man would not care to apply if he knew he was likely to be rejected because someone was canvassing on behalf of another applicant.

The system by which the Sind College is governed is not an ideal system. The governing body is a mixed Board consisting of the higher officials in the province and a number of native gentlemen who are elected. While the officials are no doubt persons of the highest intellect in the province, they have little leisure for attending to college matters and regard the work in rather a perfunctory manner. Sometimes they have even desired to resign or to be excused from the work. It is doubtful if anyone of them has so much as seen the University calendar. They cannot, with all their duties, give much attention to educational questions. Some of the other members of our Board are elected by an obsolete body called the College Association, others by the contributing Municipalities and Local Boards. Such a mixed Board is not suitable for the management of an educational institution. It would be difficult to find the materials for a competent Board. It should be a local body and an educational body. At present it is local, but not professedly educational. None of the members of the staff are members of the Board, and witness is only a nominal member without a vote. Virtually the President, who is Commissioner in Sind, and perhaps the Principal are in a way the Executive. Where there is a difference between the Principal and the Board very often decisions are given off-hand without the facts being fully gone into. The system is not a very satisfactory one, and it is desirable that it should be altered at some date.

In conclusion, the witness expressed the hope that something might be done to lessen the dominating effect of examinations, and to destroy as far as possible the cramming that goes on throughout the University.

WITNESS No. 22—MR. K. G. WELINKAR, Principal of the Union High School, Bombay.

Preliminary points.

Witness began by discussing three preliminary points:—

(1) How far University education is suited to the needs of the country. It is too literary and too little scientific. There should be more scientific instruction introduced in all courses of study.

(2) Whether a change is desirable in the public opinion regarding University education. At present it is understood to be for all sorts and conditions of people, and the result is a great many people join colleges who have not the means to pay their expenses. In many cases students have contracted debts, and as they have been many years in getting employment the result has been hardship.

(3) Whether graduates of the University are able to find suitable employment. They are not. Too many graduates are long without employment, and swell the numbers of the discontented. The mischief has not yet reached an acute stage, but is likely to do so. Matters are worse in this respect than they were twenty years ago. An ordinary B.A. starts on R40 a month now; twenty years ago he started on R75 or R100, if not more. Any attempt to make the examination easier will aggravate the disease.

The remarks of the witness apply to the Bombay University alone. In theory at least it is a teaching body. The colleges are under the supervision of the University and no college is affiliated without the sanction of the University. But if it is intended to increase the scope of the University, it should be recognized that time has not yet come for the Indian University to undertake the functions of Oxford and Cambridge. The appointment of professors and lecturers by the University is not practicable at present, considering that the colleges are situated in all parts of the Presidency and most of them are financed by corporate bodies which are independent of the University. For instance, the Wilson and St. Xavier's Colleges bring out their own professors and would resent the University appointing professors for them.

Teachers might be recognized, but this would have no practical effect. The University will have to recognize all the professors who are teaching in the colleges at present, and when all are recognized there remains no special significance in the recognition. The Committee of the Graduates' Association agree with the witness that the recognition of teachers is of no practical use at present. Such recognition as is necessary and practical can be effected by greater care in the affiliation of colleges.

The witness next made certain suggestions :—

(1) The registration of schools, like the recognition of colleges, is a matter of very great importance. Bombay is the only University that has no recognition

of schools. All sorts of schools are allowed to spring up, and there is in consequence a deterioration in the students who appear for the Matriculation Examination. A system of registration would help to remove this defect, provided no students were allowed to come up for examination except from a recognized school. Rival schools at present undersell one another and send up indifferent students. The matter recently came before the Senate. They did not approve of the suggestions of the Syndicate. There is a certain amount of opposition to the proposal. It comes from the managers and proprietors of schools who influence the Senate through their friends. When the matter last came before the Senate some were for introducing nominal restrictions which came to less than nothing, and others, rather than see such regulations introduced, preferred that matters should remain as they now stand.

(2) The recognition of colleges should be real and not merely formal as at present. There has even been a case in which recognition was obtained before any provision was made for the teaching staff of the college. For about three months classes were held and the college was then finally closed for want of funds to keep it up.

(3) A Board of visitors should be appointed by the University to report once in two years on the condition and progress of each college in the Presidency. This will do away with any need for recognizing teachers. The Board of visitors would visit all colleges, whether Arts, Medical, Engineering or Law. The Board would go into facts and make inquiries. It would, for instance, report

whether the scientific apparatus in the college was kept up to a certain standard or not. Reports sent in by the college itself would not meet the case. Visits such as are suggested would keep the colleges up to a certain standard of efficiency. Admitting that the men who manage the colleges hold the same position as those in the University, and that the self-respect of the college must not be lost sight of, there is no reason why a college which is under the University should object to a visit of inspection on behalf of the University.

(4) If funds permit, post-graduate lectures, particularly in science, for M.A. students should be instituted by the University, the lecturers being appointed by the University. Attendance at these lectures should be made compulsory for M.A. students.

I think the Senate should be appointed as at present, *viz.*, partly by nomination and partly by election. The present constitution of the Senate, containing as it does a proportion of educated men who are not engaged in teaching, is eminently beneficial. It introduces that non-professional yet intelligent and educated element into educational deliberations the presence of which is a safeguard against doctrinaire (and often very ill-adapted) schemes of education. The complaint that expert opinion in the Senate is liable to be overruled is not well founded. The elective element should be larger, it being assumed that the body of electors is a competent body. With a view to secure this competency the formation of a University Convocation on the lines suggested in the representation of the Graduates' Association may be strongly recommended. The Convocation to consist of Graduates of the Bombay University of ten years' standing, and of Graduates of other Universities and others forming the Professoriate. A third of the Senate might profitably be elective. Nomination of Fellows merely by way of compliment is now regarded by the authorities as lowering the prestige of the University, and has been latterly increasingly discouraged. The qualifications necessary whether for nomination or for election to the Senate should be prescribed and a certain academical status made a *sine qua non*. The number of the Senate is too large; but if in future appointments are strictly limited in number and Fellowships are vacated by non-attendance, the number will gradually be reduced to reasonable limits — about 200. Fellowships should not be terminable after a number of years. Such a provision would weaken the interest of the Fellows in University affairs. Even with re-election the plan is unsound. It is not possible to secure the re-election of a good man, there may be others wishing to come in. A life fellow will be more independent and have greater confidence.

The present method of appointing the Syndicate appears to be quite unobjectionable, except that there should be some provision for a minimum proportion of educationalists. At least one-half should be actual teachers. It would be undesirable to fix the constitution on a statutory basis in view of the need for a close connection between the Senate and the Syndicate.

A Board of Studies consisting of educational experts, a Board of Visitors for inspecting colleges as above suggested and a Board of Moderators for the University Examination are great and pressing needs. Boards of Studies are specially needed for books. They would also, subject to the confirmation of the Senate, settle the curricula.

The Faculties should be reconstituted by including in them only those who may be presumed to be conversant with the special subject of the Faculty and by adding to each Faculty the graduates with honours in the Faculty.

The University should not be empowered to confer the M.A. degree on recognised teachers who come from other Universities.

The University should interest itself in encouraging those societies and common pursuits among students which do much to foster a genuine University life.

On the subject of the physical needs of students, the suggestion contained in the representation of the Graduates' Association is worth careful consideration. The practice of the Allahabad University which contributes Rs1,000 a year to the recreation club of the students should be followed.

Moral instruction is an urgent need. Dr. Murdoch's pamphlet, pages * 16—21 and 62—65, gives a list of suitable

Moral Training.

moral text-books, which shows that there is a considerable selection. These books will awaken thought and teach students that there are higher things on which to reflect than merely getting on in the world. It is better to prescribe such books than to rely solely on the teachers. All teachers are not good and they have so much to do that it is difficult for them to travel outside the University curriculum. Sir William Lee-Warner's book tends to awaken thought regarding the duties of citizenship. The Punjab University prescribes a moral text-book.

Students come to the colleges very ill-equipped as regards a knowledge of English. Much more reading of English is needed at school than is done at present. The Teachers' Association were unanimous in their recommendation on this subject. The questions in English at the Matriculation Examination are such as to encourage cram. There are so many manuals used that they crowd out the reading of prose and poetry. The paper on page 75 of the Calendar would encourage cram. Paraphrase, especially of a poetical passage, is a better test than translation.

2. Vernacular language.

It is undesirable to make the vernaculars the medium of instruction even in the school course.

- (a) There are no suitable text-books in the vernaculars.
- (b) Even if there were, it would only mean the substitution of a technical vernacular vocabulary for the English vocabulary. "Trigun" would not be more intelligible than "triangle."
- (c) English as a medium of instruction does not create great difficulty in understanding the subjects taught, and it is very desirable that children should hear English spoken as early as possible.

English cannot of course be used immediately as the medium of instruction, but the study of the two languages should begin at the same time. This would give the following advantages :—

- (a) It would make it possible to spread the study of both languages over the whole school course, and the interest of the student would therefore be kept up in the vernacular language which is at present dropped after the 3rd standard.
- (b) The study of English will be encouraged because the boy will hear it spoken for 9 or 10 years.

It would be undesirable to introduce the study of vernaculars into the college course which is already overcrowded. Subjects like arithmetic and history must at the beginning of the course be taught in the vernacular.

There is great need for scientific instruction of a more practical kind. The instruction that is at present imparted in the schools is altogether lacking in practical character. Experiments are very seldom made, and altogether students do not have a practical acquaintance with science. Witness gave his own experience. He was very badly taught in the Elphinstone College up to the Previous Examination, and matters have not since improved.

The study of sanitary science with an elementary knowledge of Physiology should be introduced.

In the B. A. Moral Philosophy should be made compulsory as in the A course of the Calcutta University. It may be urged that this will be adding to the burden of the students. This will not be the case if the pressure of examinations

Burden of Examinations.

* See the Catalogue of Miscellaneous Bombay Papers presented to the Commission.

is removed. The Bombay University is examination-ridden and the Previous Examination should be done away with. It is quite unnecessary.

Text-books are needed, but in some subjects instead of being prescribed they should merely be recommended, and this especially in the higher examinations.

Text-books.

For languages text-books must be prescribed. It will be for the Board of Studies to attend to these matters.

In all subjects English examiners should be associated with native examiners, except perhaps in Sanskrit or Persian, where it would not be possible to

Examiners.

get suitable English examiners. The Syndicate should draw up a set of rules showing what qualifications are needed for examinerships. At present a great many men who have no special qualifications apply and some canvassing takes place. The system of applying for appointment is suitable up to the B.A. For the M.A. there should be special selection. Witness has known a case in which a man applied for an examinership for the M.A., although he was only a B.A. himself. Native examiners are more severe than Europeans. They expect more, and think that the more numerous are the questions the better is the paper. They ask questions which tax the memory and ask too many questions. This remark applies to all examiners, not only to those in Sanskrit. The evil is, however, specially marked in the case of Sanskrit and many complaints are made. There is not a great proportion of failures in Sanskrit, because native examiners are mathematically precise in according marks and so a great many students just contrive to scrape through by getting fractional marks in the different questions. Sanskrit examiners think that 60 per cent. is as high as anybody can hope to reach, whereas others look up to 80 per cent.

WITNESS No. 23—MR. T. K. GAJJAR, Professor of Chemistry, Wilson College.

The witness propounded a complete scheme of education illustrated by a Scheme for a University. coloured chart.

No scheme of reform, however reasonable, is likely to be introduced all at once, but it will diminish inconsistency and confusion, if instead of discussing the question of standard in a haphazard fashion some consistent scheme is always kept before the mind. University questions should be regarded as parts of a whole influencing each other in a hundred subtle ways. If not so regarded, results most ridiculous are apt to make their appearance. Witness has therefore thought it necessary to submit an entire scheme. It will not be possible to complete it in one University, but it will be possible if India is regarded as a whole. For instance, the Faculty of Technology may be developed in Bombay and the Faculty of Science in Calcutta where there are excellent laboratories.

In the diagram the school age or the period of education, which may be taken to be the 24 years prescribed in the *Shastras*, is divided into a number of concentric rings denoting years. In the centre is the Kindergarten, the first training all students have to go through. The next four years of elementary education is also common to all students. Then the education ramifies into several divisions. Those who cannot go through the whole course have their technical schools of agriculture, industry and commerce. They receive their technical education at this stage between the ages of 10 and 13. They come into the side of the diagram which contains all those who do not go in for a University course. Next there are a number of primary schools of the highest grade leading up to technical, commercial and arts schools. We now enter the sphere of the University. The Middle or Anglo-Vernacular School occupies three years. Then there is a bifurcation with a classical and modern side of the High Schools, corresponding to the gymnasia of Germany. This occupies four years, and from these schools students after passing the Matriculation examination proceed to what is called the preliminary college examination course. There will be examinations after this first year of college study. It may be added to some of the principal schools, as was proposed by Sir Raymond West,

After this preliminary course there will be different studies for different Faculties. The University will be divided into several Faculties on the classical and on the modern sides. The classical side will make for the learned or ancient professions. The first Faculty on the learned or ancient side will be the Faculty of Arts or Philosophy as it may be more comprehensively termed, while on the modern side will first come the Faculty of Science. The time has now arrived when there should be a separate Faculty of Science in the Bombay University. For the Faculty of Philosophy or Arts there may be five parallel courses of three years each :—

- | | | |
|-----------------------------|--|-------------------------------|
| (1) Classical languages. | | (3) Philosophical Historical. |
| (2) Modern languages. | | (4) Historical Political. |
| (5) Classical Mathematical. | | |

On the Science side there will also be five courses :—

- | | | |
|----------------------------|--|----------------------------|
| (1) Mathematical Physical. | | (3) Chemical Geological. |
| (2) Physical Chemical. | | (4) Geological Biological. |
| (5) Chemical Biological. | | |

Mathematics will not be altogether omitted from the groups in which it is not named ; a necessary portion will be included. But Classical Mathematical students will have to study Mathematics specially. All students will have to study some Science, even students of the Faculty of Philosophy ; just as the student of Science will have to learn some Philosophy. That is to say, each special course includes also a general education, but the student will specialise in the subjects giving the name to the course. For instance, the Physical Chemical group is so designated, because it is specially devoted to the study of Physics and Chemistry, Mathematics being an auxiliary.

Witness promised to submit the complete scheme in writing as the time available only permitted him to mention the points.*

The above is for the college period. Education on the University system will begin after the college period, and will also occupy three years.

In the post-graduate or University course proper there will be further specialisation ; that is to say, each of the ten groups will divide themselves into several sub-groups. All these are stated in the written scheme and will be represented by the different Boards of Studies or different trades. The post-graduate course will occupy two years for the Masters' degree and three years for those who proceed to the Doctors' degree. The examination for the Doctors' degree will always include a *thesis*.

The above are the Faculties of liberal education. Next come the Faculties of Technical education. Technical education on the learned or classical side will include (1) the Faculty of Fine Arts and Music, (2) the Faculty of Commerce, (3) the Faculty of Law and Politics. On the modern side the Faculty will be (1) the Faculty of Engineering, (2) the Faculty of Agriculture and Technology, and (3) the Faculty of Medicine. There will be post-graduate courses in Medicine, Technology and Agriculture, and also in the Faculty of Engineering, but no post-graduate courses in the Faculties of Fine Arts and Music or in the Faculty of Commerce.

The degrees must indicate what subject the student has studied and will therefore be numerous. For instance, a man who has studied Chemistry should be called a Bachelor or Doctor of Chemistry. Witness has prepared a list of the several degrees which will be included in the scheme. Pedagogics has been added to the Faculty of Philosophy, and the students of all the different groups may take up the science and art of teaching* as an additional subject to qualify for teacherships in secondary schools. For professorships in colleges a post-graduate pedagogic course will be essential. Witness has also prepared a list of the different professions which will come within the scheme of the University.

* Since received.

The Faculty of Law should be constructed with a view to (1) persons learning as law students or articled clerks and whether designing to practise in the country or elsewhere; (2) persons engaged or about to engage in public service, whether civil or diplomatic; (3) persons engaged or about to engage in public life; and (4) persons applying themselves to the work of the University or research in colleges. The scope of the Faculty of Law requires, therefore, to be made more liberal. As it is now, it is merely a Faculty for technical studies.

Witness has adopted the scheme put forward by Dr. Bahadurji for the M.B. degree. The University should give no licenses to practise. It has no power to do so. It can confer Bachelors' degrees, and all the Licentiate degrees should be converted into Bachelors' degrees. The present Matriculation is not a sufficient or satisfactory test for entrance into the Grant Medical College. In the general scheme prepared by the witness a more severe preliminary examination has been proposed, to be passed after the Matriculation and to be conducted by the College itself. The staff of the Medical College requires reform and the Professors should be specialists. There is also no reason why India should not provide her own staff; there is no need always to have recourse to England. In this connection witness submitted a statement about the present evil system for the appointment of a Chemical Examiner. The statement deals with the question of research. Witness read a portion of the statement.

A much more important place ought to be given to Chemistry. At present Chemistry is not attended to properly at the Medical College. Witness examined the students for several years, but now the Medical College students are examined in Chemistry by their own Professors. All the examinations in Chemistry used to be conducted by one Board, and the medical men took away the examination of the medical students from that Board. Speaking from personal experience as an examiner witness can say that medical students have little or no knowledge of Chemistry. The students in the Medical College have not much opportunity of seeing science experiments. Witness comes into contact with many Medical Graduates in his Chemical Laboratory, and can give it as his opinion that their knowledge of Science in general and of Chemistry in particular is very defective. If they knew more of Science, they would be more useful than they are in these critical times of plague and famine. At present medical students waste a good deal of their time on Materia Medica, and in cramming Anatomy. The medical curriculum ought to be reformed on the lines laid down by Professor Huxley.

Unless provision is made for research students, and prospects are offered to them, it will be a very unsafe thing to have a Research Institute. There are no prospects for purely scientific men in Bombay. There is not a single chair of Chemistry in Bombay. Even the Elphinstone College has no such chair. Witness places before the Commission a scheme that was submitted by him to the Provisional Indian Research Institute at their second meeting in 1898. It shows that it is possible out of the funds at our disposal to have a modern University that will make provision for all subjects, including the Faculties of Science, Technology and Engineering.

Witness has had some experience of working out the rules laid down in the Educational Despatch of 1854, which was a sort of a University scheme, under the liberal patronage of the Gaekwar of Baroda. Witness drew up a scheme by which they had at Baroda a regular Polytechnic University. There the medium of instruction was the vernacular, and most of the students acquired a better knowledge through the vernacular than they could have done through the medium of English. In this connection witness submits to the Commission a note on University reform printed in 1894, wherein he advocated that the

vernacular should be the medium of instruction for secondary schools; also a statement showing what is now being done in Baroda. The statement will show that although witness had only Rs56,000 at his disposal for carrying out his scheme, he nevertheless provided a number of Professors including some German specialists, and a Professor who was one of Mr. Pedler's pupils.

Witness then gave an explanation regarding his system of notation and nomenclature in Chemistry, and submitted to the Commission a pamphlet on derived nomenclature and notation published by him. He also proposed to submit to the Commission some statements regarding the working of his Techno-Chemical Laboratory.

Constitution of the University.

Witness had also prepared a note for the Commission on this subject.

The proposed constitution makes the Viceroy a visitor of the University; the Governor of Bombay, Chancellor; the Vice-Chancellor to be elected by the University Court; the Syndicate to be abolished altogether; and most of the powers of the Senate to be withdrawn.

The University Court will consist of members returned by the Senate and by the Academic Council, nominees of the Crown in respect of several institutions, and representatives of learned bodies as, for instance, the Royal Asiatic Society and the Natural History Society.

The Academic Council will consist of members elected by the several colleges, four for Philosophy or Arts, two for Science, two for Medicine, two for Law and so on, and some representatives from the University Court.

The Senate will only have the power of returning members to the University Court, and of sending representatives to the Legislative Council, the Corporation and wherever else required; that is to say, it will have political privileges.

There will be new Faculties which may appropriately be called Profesional Faculties and Boards of Studies.

The University should have visitorial powers, censors being appointed regularly to visit colleges. Colleges should be recognised not for the entire course of the B.A. or B. Sc., but for special groups. In mofussil colleges there is no adequate provision for teaching Chemistry.

Lastly, the electoral body will return members to the Senate. The scheme is complicated, but under present circumstances this cannot be avoided. On other points witness promised to submit a written statement.

Examinations.

Teaching is at present subordinate to examinations, whereas it should be the other way about.

The University should provide a laboratory where all students may have equal facilities for passing their examinations. The present system of holding examinations in a laboratory attached to a particular college is not fair. The University should provide a laboratory for teaching and that can be used for examinations. Scientific lecturers must be maintained by the University.

Examiners.

When the University becomes a teaching body, there will be a combined system of internal and external examiners.

It is difficult to understand how marks are assigned in some of the practical examinations. It is impossible to gauge the attainments with such accuracy

Mark system.

as to distinguish between a mark or two more or less as some examiners do. The mark system should be abolished and for marks should be substituted remarks such as good, bad, indifferent. With the marking system many students who do not deserve to pass scrape through, while some deserving students cannot arrive at the minimum. There should be no first, second, or third class, but only honours and pass. The qualifications for honours should not be tested by an examination. Endeavour should be made to ascertain what knowledge a student possesses, how he has acquired that knowledge, and how he can acquire further knowledge.

So long as there is no D. Sc., B. Sc.'s must be allowed to take Science in the M.A. At witness' laboratory several students after getting the B.A. did not know where to go for further studies. An M.A. course has now been instituted which witness laid down for his laboratory work, and then submitted to the Syndicate by whom it was accepted. There is a prospect in Bombay of obtaining liberal help towards the foundation of laboratories such as that worked by the witness. His laboratory is progressing. He commenced with Rs30 and it may now be said to be worth Rs30,000. Several people take an interest in it.

The Indian Universities can get many useful hints from the management of those ancient seats of learning termed *Parishads*. It is on those lines only, adapted to modern requirements, that it is possible to make the Indian Universities teaching bodies. It will not be possible to afford the best European Professors on high salaries; it therefore behoves self-sacrificing natives of India, like Professors Bose and Paranjpe, to build up the Indian University. These ancient seats of learning taught all the useful arts, and our Universities should be established on the same lines.

The present Indian Universities have totally neglected the main principle laid down in the Education Despatch of 1854, namely, the imparting a knowledge of European Arts and Sciences through the medium of the vernaculars; English being taught only in the Presidency towns and where it was demanded. At present the aim and end of University Education is intellectual gymnastics, not knowledge. It is said that the discipline of the School and University has for its object the training up and sending into the world able men of mature intelligence, sound bodies, and well-formed characters, but that it is not a part of their business to communicate any of that special knowledge or skill with which only a man can excel in some one calling in life. Witness is not opposed to general education, but for the purposes of modern life the youth who is good for everything is good for nothing. First class University men who have taken Honours are sometimes scarcely worth the pay of a day-labourer outside the walls of the University. What is necessary is that technical education which renders the talents of the educated man directly useful to the society in which he is to pass his life. The Bombay University is not a teaching body at all, but merely an examining one. The centralisation of science teaching for the B.Sc. and upwards under the University is one reform in this direction which is greatly needed.

The University must be an independent body. It must be independent of Government because it must have a character and vitality of its own. There are many defects in the present working of the Senate, and whenever any reforms are to be introduced they have to be slipped in with some manoeuvring, *i.e.*, canvassing. Many members who do not take much interest in education will vote for the best canvassers. Witness had to canvass at the last Syndicate election and disliked it very much. He was anxious to be in the Syndicate in order to urge reforms in the course in Chemistry. He wrote letters to fellows urging the points he wished to bring forward. A measure cannot be passed through the Senate without a lot of canvassing and difficulty.

There is no provision for research fellowships. The Dakshina Fellowships are given for teaching in colleges. Teaching capacity only is considered. There is no objection to these fellows doing some teaching, but they ought also to be given opportunities for research. They do four or five hours' teaching a week, or sometimes only three. In some cases there is no teaching. The fellowship is then given as a reward of merit, not for work to be done. The period of the fellowships should extend for as long as five years.

The present system allows students to join the University who have not passed the Matriculation test. They may not be entitled to degrees, but they may receive the benefit of University Education.

The Senate.

The Senate should be limited in number, and its power considerably reduced.

WITNESS No. 24—MAJOR L. F. CHILDE, I.M.S., Professor of Pathology,
Grant Medical College.

The Senate should contain a larger proportion of members connected with
or interested in education. At present the
Constitution of the Senate. number of Fellows appointed for various
reasons unconnected with education is considerable, and they are able to out-
vote the educationalists, even on questions of education pure and simple *e.g.*,
in the debates on the question of the M.B. degree. At present there are 88
members in the Senate connected with education out of 210. The Faculty of
Medicine was divided on the question as to the raising of the standard of the
preliminary education, but the educational members of the Faculty were all of
one opinion, and had on their side the Professors of the Arts Colleges in Bombay.
It came to this that the educational experts were against the non-experts.
Supposing there were an M.B. degree and a license to practise to be obtained
on easier terms, the Matriculation would be enough for the latter.

The Syndicate should be more closely connected with the colleges which
are affiliated to the University. At pre-
The Syndicate. sent the Syndics are elected by each
Faculty, but their only necessary qualification is that they must be Fellows of
the University. Thus the Syndicate might consist of persons in no way connected
with the teaching colleges. Either the Principal or the Principal and a Pro-
fessor of each college should *ex-officio* belong to the Syndicate. The proposal
applies only to the important colleges. It would be difficult for the colleges
at a distance from Bombay to appoint Syndics. It would be necessary to
exclude Sind from the arrangement, unless perhaps the Sind College elected to
have a representative residing in Bombay. The proposal will cause the number
of Syndics not to vary. At present the number is too small, and there is no
need to apprehend that for a considerable time, at any rate, it will lead to an
undue increase in the number of Syndics.

At present there are great variations, the B.A. being required for the LL.B.;
Entrance Examination in Arts for the the P.E. for Agriculture and Engineer-
different Faculties. ing; the Matriculation for Medicine.
This is an anomaly and also a great disadvantage to the Medical Faculty.
Students enter for Medicine, because they are not good enough for Law, Engineer-
ing, etc., and failed candidates for P.E. or B.A.—originally intended for other
professions—start late in life on the Medical Course. There are some students
in the Medical College who were not able to pass the Calcutta F.A. and came
here for the lower qualification. The Syndicate admits such students if they have
passed the Calcutta Matriculation. The Matriculation is not a sufficient test
of general education for medical students. More English is required. Even
for students who are only candidates for the license to practise, it would be an
advantage to them if they knew more English when they came to the college.
At the college itself there is a simple Entrance examination for all students.
It is mainly in English and consists principally of writing a passage from dicta-
tion, with the object of showing whether the student is able to follow lectures.
It is not uncommon to find students who have passed the Matriculation quite
unable to write English at dictation. This shows that more English is required
than the Matriculation affords. The chief reason is that some of the students
come from the mofussil and have never been in contact with Englishmen. They
get over the difficulty, but the first part of their course is spent in learning
English and not in learning the subjects of their profession. It is a question
whether the difficulty would be overcome by an increased study of English in
schools and colleges, or whether it will not always remain until students are
brought into contact with European Professors.

A knowledge of Latin is very necessary for the study of Medicine, and
should be compulsory. One important
Study of Latin. reason is that if Indian medical students
wish to prosecute their studies further in Europe, they cannot enter for any
Medical degree without a knowledge of Latin. Again, all the terms of Botany
and many of the terms used in Medicine are derived from Latin, and it

would be far easier for the students to understand them if they knew some Latin.

In the first three Medical Examinations, a candidate requires about 30 per cent. of marks in order to pass ; whereas in the final examination he requires 50 per cent. in each subject. The result is that a number of students are just able to scrape through the early examinations, but are never able to obtain the L. M. and S. degree, and in this examination the percentage of failures is always very high—

Pass Marks.

22 out of 61 passed in 1900.

14 out of 54 „ in 1899.

20 out of 53 „ in 1898.

It would be far better and kinder to the students to weed out the weak candidates at the early examinations, instead of allowing them to proceed to the final, which they are unable to pass.

No minimum age is prescribed for the Matriculation, and it is not uncommon to have candidates even of 14 years of age passing it. There should be an age limit, as is the case of other Universities. Sixteen might be fixed as the age. One result of the change would be that in the medical profession no man would begin to practise before he is 21. I think the temptation to push on promising boys in their schooling is at present too great.

Age Limit.

At present examiners are appointed in each subject for one year only.

Appointment of Examiners.

There is thus no provision made for continuity of standard in examinations. Examiners should be appointed for a longer period, say, for a period of four years or of two years, and half their number should be changed every two years or every one year. By this means the same standard could be maintained from year to year. There would always be one old examiner and one new examiner, instead of both being changed. Examiners are very often re-appointed, but it would be well to safeguard this by a rule.

Before the results of the examinations are sent in to the Registrar, a

Meeting of Examiners.

general meeting of all examiners should be held. At present such a meeting is recommended, but not ordered, and sometimes meetings are held, and sometimes they are not. For lack of such a meeting, hardship to candidates may result in doubtful cases. In one examination, a student passed the L. M. S. degree, but failed to get into the first class by a single mark. If a meeting of examiners had been held, no doubt that mark would have been given to him.

Mr. Justice Banerjee remarked that it has been said sometimes that the

Pass Marks (continued).

reason for demanding a higher minimum for the final examination is because the subjects of that examination are important practical medical subjects, whereas for the earlier examination the subjects are of a less practical and more subsidiary character. Witness did not consider this to be a good reason. For example, it is necessary that a student should learn his Anatomy thoroughly in the earlier examinations, in order that he may be able to learn his Surgery afterwards, and do his practical work well. Similar considerations apply to Physics.

Witness could not say what are the sizes of the classes in the Medical

Size of Classes.

College. There is no limit to the number who are allowed to enter into college. The number of students who attend the lectures depends only on the number for the year. Some of the classes contain 300 students, and they are all lectured to at the same time. The classes are too large, and their size is at present a great difficulty. The whole 300 students can hear a lecture in one of the rooms visited by the Commission, but not in some of the other rooms. It is just possible for students to get at present into the Chemistry room, but it is doubtful whether students at the back can see the experiments performed.

Witness has been a professor at the Grant Medical College since November 1889. He has lectured continuously in the same subject with the exception of two or three months when he acted as Professor of Physiology. For the last twelve years, since witness came to the College, there have been very few changes.

Staff.

Degree of Sanitary Science.

It would be a good thing if there were a degree in Sanitary Science. The College is not at present equipped for teaching the bacteriological work that would be needed for the course.

Appliances.

There is no particular difficulty in getting money for appliances and for keeping them up to date. The indents of the professors are generally accepted.

Practical instruction.

The large classes are divided into batches for practical work.

Preliminary scientific instruction.

There would be some advantages in having the students taught preliminary subjects such as Chemistry and Biology outside the Medical College. The disadvantage is that the students would remain a shorter time in the College.

Examination in Chemistry.

There is no objection to separate examinations in Chemistry being held for Medical and Arts students. In other Universities they have an entirely separate course. That used certainly to be the case in the London University.

Course of Practical Chemistry.

With reference to the College Time Table, Mr. Hewett enquired how many hours' practical work was included in the three months' course prescribed for first year's students. The witness was unable to say.

Applications for Examinerships.

Witness is in favour of the system of inviting applications for examinerships. A good many men might not otherwise hear about them. Some men do not like to apply.

WITNESS No. 25—MR. K. D. NAEGAMVALA, Professor of Optics and Astronomy, College of Science, Poona.

Teaching University.

The University of Bombay is not a teaching University in any sense of the term. It lays down certain syllabuses of study, and carries out examinations according to these syllabuses. It affiliates certain colleges, but it does not control them. In fact, the colleges would resent any interference on the part of the University, as constituted at present. Under such circumstances, it cannot be called a teaching University. At the same time, it is not possible to establish a teaching University in the sense of the University at Oxford or Cambridge. For this purpose, it would be necessary to bring together all the colleges at one central place such as Bombay or Poona. If this were done, the cause of education would suffer in the outlying provinces. On the other hand, it is impossible to have separate Universities at separate centres of the Presidency. Neither the men nor the money are available. There is no intellectual life outside Bombay and perhaps Poona, and the evil would be greater than any advantage to be gained. An attempt has been made recently to re-organise the University of London to meet a case something like the case of the University of Bombay, but the re-organised scheme of the London University has not yet been tested, and it would be rash to copy it, simply because it has been introduced as a tentative measure in London. Moreover, in London the sphere of influence is restricted to a radius of 30 miles, a restriction which would in Bombay leave out the most useful colleges. The problem in India is quite unique; there are no materials to go upon and no means of establishing a teaching University under the present conditions of general culture, spread of knowledge, and modern requirements. A step in the right direction can, however, be taken by reconstituting the Senate, Syndicate, etc., by encouraging inter-collegiate teaching for post-graduate courses, by insisting upon a rigorous

supervision of the colleges through the medium of the reconstituted Senate, and by encouraging learning in general.

It will be wise to restrict each University within definite limits, although no self-respecting University will admit into affiliation any college from another

Spheres of influence.

Presidency without very good cause. At the same time, the difficulty has arisen in the past. The Bombay Matriculation Examination is a pretty stiff one notwithstanding all that has been said against it, and it was a common thing in former years for those who were plucked at the Matriculation to proceed forthwith to Allahabad and return as under-graduates. Allahabad will not now admit to its Matriculation students who have studied in schools outside the limit of its province. The above instance shows that there is a certain amount of danger in not laying down a defined sphere of influence, but, on the whole, the question may perhaps be left to the discretion of the Universities.

Causes which have led to the failure of the University system.

The following are the principal causes which have led to the failure of the present University system:—

- (1) The promiscuous manner in which the Senate has been recruited by Government in years past. Men have been admitted to the Senate as a civick

The Senate.

compliment. Witness knows of an instance in which a very amiable gentleman was appointed a Fellow of the University, because his great grand-uncle first introduced English learning among the ladies of his family. Another gentleman was, within the last three or four years, nominated a Fellow of the University because his father-in-law established a school for the girls of his community somewhere about 1850. They have no other qualifications. The circumstances were told to the witness by persons who had something to do with the nominations. It results from the constitution of the Senate that extraneous considerations are frequently imported into the discussions on academic questions. Among a certain set of Indian Fellows there is a desire to make examinations easier, and, on the other hand, there is a desire on the part of some European Fellows to make them prohibitive. This gives rise to friction and want of confidence in discussing academical questions.

- (2) The University has no funds. Practically the only source of income is the fees it levies for examinations and spends on examiners and the ordinary

Funds.

expenses of the University. Government at one time used to contribute R20,000 to the University, but this was reduced to R15,000, then to R1,000, then to R5,000, and finally withdrawn altogether. One of the reasons given was that the University was self-supporting. By self-supporting the Government meant it could pay its expenses and the examiners. This unfortunate step on the part of the Government led to the belief that the proper function of the University is to examine, and to examine as cheaply as it can.

- (3) There is a dearth of competent examiners. Frequently it is very difficult to find a set of thoroughly good examiners, and this difficulty is increased

Examiners.

to a certain extent by the exercise of what may be called patronage. The self-denying ordinance in the Syndicate lessens the number of examiners, but wisely lessens it. In former days all the Syndics used to be examiners, and examiners in more than one subject. Witness said he could best explain what he meant by "patronage" by giving a concrete example without mentioning names. It was decided to keep out a certain gentleman because it was thought he was not a competent examiner. In the meeting of the Syndicate he was forced upon the Faculty by the other Syndics, who said he was a good man and would not be a bad examiner, and this although he had been declared by the best authorities in the Presidency to be incompetent and careless. In another case an examiner was wanted for a higher examination of the University. A gentleman who is most competent to advise on the subject recommended an official. The Syndicate, however, did not appoint that gentleman, but appointed another who, however good otherwise, had not passed an examination in the subject in which he was to examine. He was an M.A., but not in the particular subject. He had never learnt that subject, never

taught that subject, and had no testimonials to show that he knew that subject well, and yet he was appointed to examine in one of the higher examinations of the University. He was appointed without there being any sort of guarantee, either by a University degree or in any other way, that he was competent. This was done at an extraordinary meeting of the Syndicate. It was objected to by 2 against 4. In both these instances the arrangements were made at scratch meetings of the Syndicate, and were carried simply by combination; these are exceptional occurrences, but there is a feeling that, if you know certain Syndics, you will get appointed to certain examinations.

There is an absolute want of control over colleges. Consequently there has been a lowering of teaching in some colleges, and this has a reflex action upon examinations. **Control over colleges and lowering of the standard.** Examiners try to keep up a certain proportion of passes even if the candidates are badly prepared, and so defects in the teaching tend to lower the standard. The University ought therefore to control the colleges and keep them up to the mark. Examiners are told that there should not be any very abrupt change of the standard, and they try to keep up the average result. They say so many have appeared, so many should pass. And if the proportion is not kept up, for instance if the examination is made a little hard, there are complaints before the Syndicate, and the Syndicate in the majority of cases does not like to have such complaints. The Syndicate looks with disfavour on examiners who raise the standard. When complaints are made, the Syndicate impose a moderator for the subject. In one case, which came to the knowledge of witness, an examiner advised his colleague to be generous, or a moderator would be imposed. Complaints come from the school masters. The Syndicate does not formally blame the examiner, but it imposes a moderator. The system of moderators applies only to the lower examinations, but the same principle applies throughout. Examiners object to moderators; a good examiner would think the moderator not good enough to be put over him. Moderators are appointed two or three weeks after the examination more or less as a result of complaints. There will be no moderator in a more important subject in which the examiner has been lax, whilst there will be a moderator in a less important subject in which the examiner has been more severe.

It is urged that the present number of the Senate is not too large because at some meetings of the Senate there is hardly a quorum. **Constitution of the Senate.** The danger does not, however, lie in ordinary meetings, but arises on occasions when subjects are discussed which raise a general feeling. Everyone then attends, and the unwieldy size of the Senate exerts a prejudicial effort on the deliberations. It is proposed by some not to make any appointments for the next ten years. This will only reduce the number to 150, and those who will retire by the operation of the procedure will be mostly Europeans, and those who remain will not satisfy the doctrine of the survival of the fittest. After giving the matter his most careful consideration, witness is constrained to say that the only remedy is to do away with the present Senate and to appoint a new Senate by a fresh Act of Legislature. This will meet with great opposition, but it is nevertheless essential. The number should be restricted to about 100, and at least half the members should be connected with education. There are now about four thousand graduates of the University. They have a claim to be adequately represented on the Senate. At least 50 members of the Senate of 100 should therefore be graduates of the University, and 25 at least of them should be non-officials. In a Senate like this all the various interests will be well and adequately represented, it will be an academic body in the true sense of the term, it will not be unwieldy, and it will inspire general respect.

In connection with the Bombay University there have been in the past a number of benefactors, and it would be unwise to keep these friends out of the University. There should be an extra 25 Honorary Members of the Senate without the power of voting on academic questions. These gentlemen will be very useful as members of the Board of Accounts and Finance Committee. They may be called Honorary Fellows or Fellows Extraordinary. **Honorary Fellows.**

It will be unwise to make Fellowships terminable at the end of five years.

Terminable Fellowships. The independence of Fellows would be impaired, and there would be a good deal of canvassing and manœuvring whenever vacancies were likely to fall due. An attendance test would cause the undesirable Fellows to attend.

The number of the Syndicate should be raised from 15 to 21. That would not be an unwieldy body. There are

The Syndicate. Syndicates of about 20 in many Universities. Oxford has a Council of 20, Cambridge of 21, Allahabad and Lahore of 20 each. Twenty-one will not therefore be an unusually large number. On this Syndicate, besides the Vice-Chancellor, there should be as *ex-officio* members the Director of Public Instruction, the Principal of the Elphinstone College, the Principal of the Deccan College, the Principal of the Wilson College, and the Principal of St. Xavier's College. Also a representative nominated by the northern circle of colleges, Gujarat and Kathiawar, one by the circle of colleges in the Deccan, and one by the circle of colleges in Sind. Nominated Syndics may be Principals or professors of colleges or members of the Senate residing in Bombay. Two Syndics should be elected by the Faculty of Arts to represent Arts, and, as long as there is no separate Faculty of Science, two others to represent Science.

[A Faculty of Science is much needed; the Faculty of Engineering should be merged into it, and Agriculture should be made a part of it. A Faculty of Commerce is not required for the present at any rate.]

As regards Law and Medicine, the Principal of the Bombay Law College and the Principal of the Grant Medical College should be *ex-officio* members of the Syndicate, and there should also be two elected representatives of each of these Faculties. In Engineering the *ex-officio* member should be the Principal of the College of Science, Poona, and there should be one elected representative. This gives a total of 21: the Vice-Chancellor, 11 *ex-officio* and 9 elected members. The portion of nominations proposed in Arts and Professional Faculties is different. In the latter case there are only single professional colleges, and also members of Professional Faculties are capable of giving professional and up-to-date advice regarding their own subjects.

With a reformed Syndicate, it will be possible to insist upon the supervision of the colleges as regards teaching, discipline, equipment, and so forth. Objection has been taken to this suggestion before the Commission, but if the Senate is re-organised as proposed and if the Syndicate is formed as suggested, then the University will be entitled to exercise control. If the Senate is not considered fit to wield this power, then the University does not deserve to exist.

The Syndicate (continued). Deans of Faculties should not be *ex-officio* members of the Syndicate, though they may be Syndics.

It will be desirable to withdraw the right of representation from any college, of which the representative has not attended two consecutive meetings of the Syndicate. It is very necessary that the attendance should be improved. At present the Deans who are *ex-officio* members are very lax in their attendance; one has not attended for a whole year. Not only should the defaulter be retired, but, in so far as his vacancy is concerned, representation should cease for the rest of the year.

There is now a large body of graduates, and they ought to be brought in some way into co-relation with the University. An assembly of graduates might be established by Statute, to which graduates of ten years' standing should be admitted on payment of an annual fee of R10. They should elect their own Chairman, Council, and Clerk of Council, and their province should be purely deliberative. They might discuss educational questions and send recommendations to the Senate through the Syndicate for consideration. The present Graduates' Association does nothing, but the proposed body will differ from it in being recognised by the University. It will be an innocent means of gratifying the desire of the graduates to be connected with the government of the University, and may do some good.

The disadvantage of *ex-officio* Fellows is that after a time they become less energetic than Fellows who are specially appointed. The Vice-Chancellor should remain an *ex-officio* member of the Syndicate.

The appointment of examiners should be vested in the Boards, not in the Syndicate. The system of application for examinerships is open to some objection, but is probably the best that could be devised. Without it the appointing authority would not know who is willing to examine. Some good men may not be willing to apply. (Dr. Bourne mentioned that last year 21 were appointed who did not apply.)

It is not possible to entrust the supervision over the colleges to the University. There must be responsible persons to periodically visit and enquire into the working of the colleges. The University cannot provide such persons. Neither the Chancellor nor the Vice-Chancellor could do it. The Syndics will not have the time, and the Registrar would not receive the same attention as higher officials. The duty lies with the Education Department, because the colleges form a system under the Director, who has a certain authority over them. The Director has not, it is true, any authority over the unaided colleges, but in their cases the authority supplying the funds, *i.e.*, in general the administration of the Native State, will see to the management. The University determines whether the college is efficient before affiliating; if the students in the college do not follow the University regulations, they will not pass their examinations. Beyond this, it is difficult for the University, owing to the want of agency, to go.

The Matriculation should be divided into two parts, the first part comprising English and the Vernacular. To pass the first part, the student should get 40 per cent. in each language, and, unless he passes in the first part, he should not be allowed to appear in the other part. This is not open to the objection that it is passing by compartments. What is meant is that the student should not be allowed to proceed until he has a competent knowledge of his vernacular and English.

Witness is not in favour of an age limit. There was formerly an age limit of 16, but it did not work well in practice, and the rule was abolished. It is difficult to ascertain the age. A few boys pass younger than 16, very few so young as 12. Cases of mis-statement were not common. The main arguments used were that there are satisfactory students among those who passed at 14, and that parents are anxious to get their boys through the course young in order to send them to Europe. Even with school registration, it would be difficult to tell the age to within 12 or 18 months. Horoscopes are not always reliable.

No existing Fellows should be deprived of their rights, but new Fellows should be appointed only for a term. In the past the honour of Fellowship has been a gift, and the recipients should not be deprived of it.

WITNESS No. 27—Mr. J. F. ADAIR, Principal, Rajaram College, Kolhapur.

At Dublin the Board consists of seven Fellows, who have the management of the University in their hands. The Syndicate, or governing body, of the Bombay University should be reduced to the same number.

It is expedient that the University should be a teaching University. For this purpose, the Elphinstone College should be made into a University, and lectures held there as in Trinity College, Dublin. Those who are in residence will keep their terms by attending lectures, the others by passing examinations.

Witness was asked whether for the sake of the technical advantage of calling the University a teaching University, one college should be put above the others. Witness answered in the affirmative, because there are not funds to

secure the object in any other way. Students in other colleges would obtain degrees by passing examinations to be conducted by the University College.

A local limit should be placed upon the right to affiliate colleges. The Cambridge University, for instance, should not have the right to affiliate a college in Bombay.

Sphere of influence.

The Senate should be limited in number. Qualifications for appointment should be prescribed. A man should not be appointed because he happens to be

The Senate.

the son of a man who set up a college long ago. Fellowships should be vacated by non-attendance at meetings.

Text-books should not be prescribed in the majority of subjects. A further paper should be set for candidates in the previous and each subsequent examination in any subject the student chooses, and, if he fails in this paper, he should not pass the examination. The paper will correspond to the easy problem paper at Cambridge.

Examinations.

The University is now empowered to confer the degree of Doctor of Laws, but there are few who care for that degree. The University should be empowered to confer the M. A. or other suitable degree on strangers.

Conferring of degrees.

The small percentage of passes in the Previous Examination does not matter, as students often go up to get experience of the examination for a future occasion.

Percentage of passes.

The system of grace marks is objectionable. For the last three years one out of three have passed, the proportion being practically fixed by grace marks.

Grace marks.

The examiners allot the marks carefully, and then their whole work is spoilt by the grant of grace marks. It makes examiners lax, and is bad for students. The marks are not given on any principle such as a reward for a higher aggregate. The extra paper proposed above would tend to do away with the need for grace marks.

The physical and moral welfare of the students should be of interest to the colleges, but it is a very difficult subject. It is almost impossible to exercise any influence over students.

Physical and moral welfare.

There should be Law schools and schools of Medicine, Engineering, and Divinity. At Trinity College, Dublin, these schools exist, but the difficulty here is to find funds to pay the professors.

University schools.

Vivâ voce examinations in modern languages and especially in English should be compulsory in every case. For the further paper proposed above, text-books should not be prescribed, and the examination papers should be set by suitable persons altogether unconnected with the University.

Examinations (continued).

Uniformity among Universities is desirable, and could be obtained by having the same subjects and by setting the same papers in all Universities.

Uniformity.

The rate of pay given to examiners is too low, much lower than at London, Sydney, or Dublin. Assistant examiners may be appointed except for the further paper. Examiners should be appointed one year beforehand and for two years in succession.

Examiners.

The subjects of examination are antiquated. For instance, quaternians are not included in the mathematical course.

Examinations.

The foundation of a school of Divinity was suggested to witness by the mention of Theology in the note for the witnesses. He could not say what course of studies should be pursued. He is not in favour of teaching the Christian religion or any other religion in particular, but is in favour of teaching religion.

Theology.

WITNESS No. 28—MR. K. SUBRAMANI AIYAR, Principal, Byramjee Jeejeebhoy College of Commerce, Bombay.

Mr. Subramani Aiyar read from a long printed note,* and was asked a few questions upon it. The following is an abstract of his remarks and replies:—

* Paper No. 12 in Part II.

Witness proposed that for a donor to be appointed to the University Court, he should pay Rs15,000 in Madras and Rs25,000 in Bombay, the reason for the difference being that there is more money in endowments in the Bombay than in the Madras University.

The Government should be allowed to appoint cultured bankers and merchants to the University Court, even though they are not graduates. The matter should not be left to election.

Paragraph 7.

A B. A. and LL.B. is appointed to both Faculties. The same procedure exists in some foreign Universities. In London the rules permit him to vote on only one Faculty. In Bombay he should be confined to the Legal Faculty, unless he is a scholar in any other special direction, when he may also be admitted to the Arts Faculty.

The Senate, paragraph 9.

A separate Faculty of Science is needed. Economics require more attention than has been paid to them in Madras and Bombay. So also Commercial Geography. In Birmingham there are separate Boards of Studies in History, Geography, and Economics. In Oxford there is a school of Geography which grants diplomas. Geography is here only recognised for the Matriculation, and it is very badly taught both in Madras and Bombay. The examination papers in these subjects directly encourage cram. The teaching would be greatly improved if the subject were included in the University course.

The Faculties, paragraphs 12 and 13.

It is recognised in England that encouragement is needed for commerce and commercial education; how much more then is it needed in India! The University should grant degrees in Arts, Science, Law, Engineering, Medicine, Teaching and Economics and Commerce. The last two are the additions required.

University Degrees, paragraph 20.

The Bombay University is too unwilling to grant honorary degrees to the graduates of other Universities; the power exists, and should be more liberally used.

Honorary Degrees, paragraph 22.

There has been much discussion on the subject. The increased knowledge in the voluntary subject which results from the permission to pass by compartments is insufficient to outweigh the objections to the system.

Examination by compartments, paragraph 24.

Too much thought is directed to passing and percentages. If students thought less about passing, they would pass more easily. The Matriculation paper in English should be mainly devoted to translation, paraphrase, and the transformation of a few sentences. Unless cramming is made impossible, teachers and students will continue to practise it. There should be no dictating of notes. The lectures should be fewer, and directed more to the guidance of the students.

Examinations and cram.

WITNESS No. 29—The Honourable MR. E. GILES, Director of Public Instruction, Bombay.

† Paper No. 13 in Part II.

Mr. Giles presented a printed note† to the Commission, and was examined with reference to it.

The colleges which constitute the University are scattered, and consequently, while it is desirable that the University should have the power of ap-

Teaching University.

pointing professors or lecturers, it is obvious that outlying colleges cannot materially benefit by such appointments, so that the scope of a teaching University in Bombay must be limited to those colleges in which centralisation is possible. It should be confined to a post-graduate course: it does not seem possible to go beyond this. It is possible that a good many students studying for the M. A., who are attached to various colleges in the mofussil where they hold scholarships of Rs 50 a month (Dakshina Fellows), might be led to come to Bombay if lectures were delivered there by persons of eminence.

The Dakshina Fellows are required to assist to a certain extent in teaching the junior classes, but they are also under an agreement to study for the higher degree. They have three to five hours lecturing a week and no tutorial work in addition. They are supposed to be reading for their own benefit. They generally lecture in classical languages and Mathematics. They are of considerable assistance in the college, not only in teaching, but in supervising and keeping in order the students and assisting in their games and in other ways. There has been no complaint that their having to teach prevents them from studying. The distribution of the Fellowships is made by the Government. The Elphinstone College has 9, the Deccan College 6, the Wilson College 3, the St. Xavier's College 3, the Gujarat College 3, the Jayram Jethmal College 3, and the Ferguson College 3. The distribution was made, witness believes, in order to carry out a recommendation of the Education Commission. Formerly all were given to the Deccan and Elphinstone Colleges. The College of Science receives some. The Native States colleges do not receive any, nor does the Medical College. The money is supplied by an old Dakshina grant of the Maharattas. When Government took over the Deccan, they found this fund existing. It was money left by an old Maharatta General of Telagaun near Poona. It was principally spent in feeding indigent Brahmins, but its nominal object was to improve education generally. Government took over the grant, and have spent it in various ways for the furtherance of education. At this moment a very small portion is still given in grants to Brahmins. The University has nothing to do with these Fellowships. They are tenable for one year, but a student may be renominated if it appears desirable. Formerly it was possible to combine two to make a larger scholarship, but this is not provided for in the present rules.

University lecturers might be appointed where colleges are grouped, and specially for the study of Science. It will not be possible to have combined lectures for such subjects as English, where the classes are very large. There is always great difficulty about combined lectures. They are more possible in Bombay than in Poona, because the distance between the Fergusson and Deccan Colleges is at least three miles. Students studying for the B.Sc. in Bombay might attend combined lectures. It would certainly be sound to establish a Science Institute for the benefit of students residing in one place. In the Elphinstone College the Science teaching is not as it should be.

A main reason for reducing the Senate to 100 is that it is easier to find 100 than 200 good men. The present Senate is undoubtedly very much larger than it should be.

Any Fellow who fails to attend a meeting of the Senate for a period of two years should vacate his Fellowships, unless his absence is due to special circumstances. If there were quarterly meetings of the Senate on fixed dates, there would be no particular reason why a Fellow should not even come from Karachi. The two years' rule is required to meet the case of a man on long leave in England; he might be very useful, and it might be impossible to fill his place. Fellowships should be terminable after five years, subject to re-appointment. No person whose independence could be diminished by this rule is worthy to be a member of Senate. Some Fellows should continue to be elected, and those already elected should be placed on the new list. They would then come under the five years rule. The number of elected Fellows should be limited to one-fourth of the whole, so that, even if some undesirable Fellows are elected, they

will not be able to do much harm. All elected Fellows are certainly not undesirable. It is unsatisfactory that out of the 18 Fellows recently elected, only four are actively connected with education, but if election is permitted, and if the candidate for election is qualified under the rules, the result of the election cannot be disturbed because the candidate himself is not a very desirable person. The election should take place in each Faculty in the following order: the Faculty of Arts, two; and then each of the other Faculties, one. Such a Senate would not give rise to the difficulties that exist at present, because the total number of the elected graduates would only be 25, and against them there would be 75 nominated Fellows. At an important meeting of the present Senate perhaps only 60 out of 297 attend, and then a party of 40 will carry things their own way. The present quorum of 6 is inadequate. It is a matter to be regretted that Fellows who are engaged in teaching are not more often elected, but it is also desirable that there should be some, though not a large proportion, of representatives of the general public. It would be unwise to exclude a businessman or a banker or a lawyer, because he is not engaged in education. It is to be hoped that graduates will elect more people interested in education.

The principal reason for making Fellowships terminable is that, if a man is found to be taking no intelligent interest in the affairs of the University, the sooner he is got rid of the better. That object might perhaps be partially secured by the attendance rule, but terminable Fellowships would be more effective. It is difficult to state precisely the difference between intelligent and unintelligent interest, but, speaking generally, everybody understands what taking an intelligent interest in University affairs means. A man who takes an intelligent interest comes down to the meeting, and knows what he has to talk about; he does not come and give a silent vote, because somebody has told him to do so. It is well known that, if there is an important vote to be taken, people are whipped up. With a reformed Senate there will be no force in the objection that an attendance test will bring undesirable members to the meetings.

Generally at elections votes are taken by a show of hands. There would be no great advantage in recording the names, but no objection, except that it would take longer, and that would be less important with a smaller Senate.

If a Faculty of Science is created, it might be merged with that of Engineering. Witness merely puts this forward as a suggestion, as it is not a subject in

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which he is an expert. A Faculty of Science ought to be created: the study of Science is not prosecuted to the extent that it should be. It is most desirable that nominated and elected Fellows should be assigned to one Faculty only. Because a man is a B. A. and an LL. B., that is no reason why he should be assigned to two Faculties. It gives him a vote first in one Faculty and then in another. His attention should be directed to one Faculty, either Law or Arts. It may be desirable occasionally to put prominent men in more than one Faculty, but they should put there specially on account of their prominence, and the ordinary run of Fellows should be assigned to one Faculty, and not to more than one.

Dr. Bourne remarked that, it was the custom in Madras to put the Director of Public Instruction on more than one Faculty.

Witness said that it is only the Registrar who is on all the Faculties in Bombay.

The Syndicate has no statutory basis, and that, if legislation is resorted to, the Syndicate should have its status defined and legalised. It should be empowered

The Syndicate.

to exercise certain powers independently of the Senate. It would be difficult to define those powers, but generally they may be described as the conduct of all ordinary business which does not involve any distinct change in the curriculum of the University. It is not perhaps necessary to refer such matters to the Senate, but the Senate should decide all cases where there is a change in the course of any examination, or any change in the dates of examinations, or the number of examinations to be held, or the degrees to be conferred. It should not be necessary to refer to the Senate the grant of exemption to students from attendance for a few days required to complete a term.

Witness does not know of any proposal having been made that the Senate should appoint examiners, but it is only within the last three years that he has had any close connection with the University. Dr. Mackichan said that his own recollection was that once there was a demand that all appointments made by the Syndicate should be reported to the Senate. Witness said he should be opposed to any such power being exercised by the Senate; they are quite incapable of exercising it.

Witness referred to the portion of his written statement * in which he had suggested that mofussil members should be paid travelling expenses for attending meetings of the Syndicate. He said that, if proposal No. 3 (for quarterly meetings) was carried into effect, it would be possible to get mofussil members to attend, and under these circumstances the University should pay their travelling expenses. Witness gathered from what Mr. Selby said in Poona that he seemed to think that it was no tax upon a man to come down and attend meetings of the Senate. It means really nine or ten meetings a year, and that even from Poona would involve an expenditure of Rs 25 each time for railway fare, besides hotel charges and expenditure of all kinds. Witness is able to come from Poona because he is a Government servant and receives travelling allowance, but if he did not get that, he would feel it a distinct tax. If the University gave travelling allowances and had quarterly meetings, then men might come even from Karachi.

The Syndicate is too large for an Executive Committee. It is difficult to give proper attention to the papers that are circulated, and a great many of them relate more or less to routine work, which could be done by a small body of the Syndicate. Witness therefore proposes to make the Syndicate a representative body consisting of 18, instead of 15, members and to have an inner body of 7, who should be residents of Bombay. This small body will be able to deal more efficiently with current business, and all questions involving matters of principle should be kept for the quarterly meetings of the whole Syndicate. A question such as the date of an examination might be fixed by the executive body. The present system is a haphazard system and it is not the fault of the Syndics but of the system that proper attention cannot be given to the papers that come before them. The Madras system, in which there are eight Syndics and other Fellows are invited to join them for special sub-committees, does not provide for the representation of mofussil colleges.

There should be six Principals of colleges *ex-officio* on the Syndicate. In his turn the Principal of, say, the Gujarat College will be one of these members, and he should attend at least four times a year and whenever there is any important business to be discussed, and such business should, as far as possible, be kept for the quarterly meetings, and, if necessary, it should not all be disposed of at one meeting. At present there are seldom adjourned meetings of the Syndicate, and occasionally the Syndics rather hurry over things because they wish to get through them. That is not as it should be. The smaller body should prepare their views upon any important question, and then submit it, possibly printed, to the other members who will come to the quarterly meeting and seriously tackle it.

It would not do to have a much larger body than 18 or a much smaller body than 7. The smaller body should not be a majority of the whole, otherwise they might settle an important point and carry it through the larger body. The quarterly meetings of the Syndicate should have full information as to what had been done by the executive board throughout the quarter. Although the mofussil colleges have not any interests as opposed to Bombay colleges they should nevertheless be given a share in the management. They do not want this for the purpose of securing more examinerships. Retiring members should be eligible for re-election. It will improve the administration if the term of office is raised to three years.

With a reformed Senate voting by proxy might be introduced. With a Senate of 100 good men it would be very easy to send round papers, and to ask that votes may be recorded on them. It would not be admissible under the present Act. Perhaps the simplest way would be to have a proposing day and a

* Paragraph 4 (1).

polling day when all votes should be recorded at the Registrar's office. Mofussil members should not be allowed to vote in this way on questions of curricula, but only for purposes of election. In the former case they would not have an opportunity of hearing the arguments on both sides.

It should be the duty of the Syndicate to see that the colleges conform to the affiliation rules not only at the time of affiliation, but at all future times.

Inspection of affiliated colleges.

It is difficult to say what measures should be employed for the purpose. Continued interference with the colleges is to be deprecated. For instance, supposing the members of the Syndicate chose to drop into the Elphinstone College, and then into the Wilson College, and then into St. Xavier's College, they might make themselves undesirable in every way. But it would be quite easy for the Syndicate to ascertain at any time whether a college is deteriorating or not, and if they had reason to believe that a college was deteriorating, they might depute one or two of their body to go and see it, or they might call for certain returns from the college or reports to shew why such and such persons employed on the teaching staff who do not appear to be desirable should not be removed, and if they are not satisfied with these reports, then they might pay a visit to the college and enquire into things themselves. Perhaps it would be advisable for the Senate to make a rule that colleges should ordinarily be visited by the Syndicate. The visit would usually be one of congratulation rather than fault-finding; at the same time, constant visits are undesirable. If the University appointed the Director of Public Instruction for this purpose, there would be no friction. Witness has never yet been received in any college except very pleasantly. He has visited all the Native States' colleges. A good many years ago he paid a visit to the Baroda College, and he would not hesitate to visit it again if he went to Baroda, though he would not have any *locus standi* whatever. The colleges would be less likely perhaps to object to a visit if it were a matter of University routine. It might be provided in whatever rules are eventually laid down that it should be part of the duty of the Syndicate to exercise supervision over all the colleges affiliated to the University.

Dr. Bourne said that it had been stated by one of the witnesses that, as a general rule, the Managing Boards of colleges are as good judges of the fitness of a professor as the Syndicate would be. Witness replied that that would include the Department as the managing body of the Government colleges. As regards Government colleges, if the Director of Public Instruction is a sensible man, he works with the Principals and consults with them on the position of the colleges. Witness has never recommended a man to act as professor in the Elphinstone College, without having taken the advice of the Principal. As regards aided colleges like the Gujarat and Sind colleges, the board of management is a body consisting partially of Government servants of high position and partially of a few representatives of the Municipal, District, and Local Boards, and of the original founders (as in the case of the Sind College). They do their best, but they have no educational experience and generally depend on the Educational Inspector, who is a member of the board. They would be very glad indeed if the Syndicate would assist them occasionally by seeing their colleges and pointing out any direction in which change could be made. As regards the Medical College which would come under the same rule, there would not be any difficulty. The Principal of that College is on the Syndicate, and it would be very easy for the Syndicate to ascertain whether he was of opinion that his college was conforming to the rules, or if any member of the Syndicate could point out that it was not conforming to the rules, then it might be inspected. There would always be a representative of the College on the Syndicate, and it would be his business to see that the representations of the Syndicate were listened to and attended to.

The Syndicate should have the power of approving of the appointment of teachers in colleges. There would be no objection with regard to the Government colleges. At the present time they would have nothing to fear. Some appointments were some time ago made in the Elphinstone College, which caused very great disappointment; and on the Graduates' Association making a representation to Government, a change was made in those appointments.

That was obviously not the work for the Graduates' Association; it should have been for the Syndicate to move in the matter. Such cases are very rare, and it will probably seldom be necessary for the Syndicate to resent the appointments made in the Government or in the aided colleges.

The University could not make any distinction between Government, Professional, and Arts colleges in the matter of periodical inspection. If there is to be any power of supervision by the Syndicate, that power must be exercised over every college affiliated to the University. If it were obvious that the men nominated by the Secretary of State were inefficient or that any particular appointment was a scandal, it would be the duty of the University to take the matter up, even if they had to go to Government or to the Secretary of State, and say that the man is not what he should be. Such cases would be phenomenal.

It is advisable that there should be Boards of Study. The need for such boards has lately been illustrated by the extraordinary development of interest in the French language. It seems possible that there may be no members of the Syndicate who have given any particular attention to the examinations as conducted in French.

It would be useful to place upon the Boards of Studies men who are not only thoroughly educated Englishmen, but are also thoroughly proficient in French and could thus compare the French with the other standards. It is becoming a serious thing, this extraordinary way in which people are taking up French to the neglect of their own classical languages. The only reason is that the French examination is easier than that in Sanskrit. Some time ago it was easier to pass in Persian than Sanskrit, and then everybody went in for Persian, now all have gone round to French. That shows there is something wrong in the standard. There may be a few persons, especially business men, to whom French may be useful, but it is inconceivable that French is of any use to the majority of Hindu, Mahomedan, and Parsee students. Before deciding to restrict French to lady candidates for whom it was originally intended, it would be well to take the advice of the Chamber of Commerce, because it is said that French is becoming more and more useful for business purposes. An approximate equalisation of the standards would probably put a stop to this abnormal development of French. The whole question affords a striking instance of the need for properly constituted Boards of Study.

It is worthy of special note that the Medical staff have vainly endeavoured for 18 years to raise the qualification for entrance into the Grant Medical College. Now they have given it up in despair. There have also been attempts to institute the M. B. degree, but the principal question has been with regard to the preliminary qualifications. It is considered that an ordinary matriculate is not fit to begin the work which it is necessary for him to do in the college.

Witness has no special knowledge of the subject, but thinks that matters were better before the Previous Examination was introduced.

The Licentiate in Engineering in the Bombay University is quite as high as the B. E. elsewhere, and there is no reason why an engineering graduate should be called a Licentiate. Similarly the L. M. and S. is quite equal to the ordinary degree of M. B. in England, and there is no reason why it should not be called the M. B.

A student should be allowed to specialise after passing the Intermediate, not in one subject, but in a smaller number of subjects than in the present pass course. Certain subjects like English should be common to the Honours and Pass courses, and Honours men should specialise in two groups of subjects. It would not do to allow a man after he has passed the Intermediate examination to take up a single group like Logic and Mental and Moral Philosophy, or Physics and Chemistry. There should be a general education, and permission to specialise in two kindred groups.

The M.A. is not a sufficient substitute for an Honours degree. Some men have not the money or the opportunity for reading for the M.A. Witness has known some extremely good men who have never gone up for the M.A., although they have got a first class in the B.A. Good graduates should not be injured in their prospects of entering into Government service, where an Honours man is preferred to a pass man. The system of marking for Honours is objectionable, the Oxford system of simply classifying is much better. It would not be difficult to maintain a consistent standard if thoroughly competent examiners were appointed.

It is not desirable that all the examiners should be changed every year. The Syndicate endeavours to have in a group of examiners, at any rate one man who has got one or two years' experience in the work. For the Honours examinations, if possible, examiners should be appointed for two or three years.

On the whole in Bombay the standards have been fairly consistent. They will remain consistent, if there are sensible examiners who will set sensible questions and look over them in a sensible way. There is no fault to be found in the curricula, and if properly applied they are very good test of a student's knowledge and capacity.

It would be well to re-establish the age limit of 16, although there have not been many cases of boys much below 16 coming up to the Matriculation. Witness has known one or two such cases including one case of a boy of 14 who was not fit to be a member of a college. The percentage of boys under 16 is probably less than the Madras figure of 10 per cent.

The present Matriculation Examination should be abolished, and replaced by a School Final Examination to be conducted by the Education Department. There is a School Final Examination in Bombay, but it is conducted by the University. When the Education Commission recommended an examination separate from the Matriculation in order to provide those boys who are not going up for a collegiate education with some test to show that they have attained a certain degree of education, the Government should have taken the matter in hand and provided a suitable examination. The Government failed to do so and after a few years the University made out a scheme for a School Final and undertook to conduct it themselves. But, although they took this responsibility upon themselves, they did not seem to be alive to the fact that it was a responsibility, and their action with reference to the examination was such as to give it the smallest possible chance of success. For instance, while they held the Matriculation Examination at all the main centres of the Presidency, Karachi, Poona, Bombay, Ahmedabad and Belgaum, they insisted on holding the University School Final only at Bombay, so that a boy from Shikarpur had to come to Bombay to be examined. Secondly, they charged a higher fee for the School Final, although it is admitted by everybody that the boys who go up for that examination are those who cannot afford a University career. Nobody was likely to come all the way from Shikarpur and pay a fee of Rs15 to be examined in Bombay, when he could go to Karachi and have himself examined at a cheaper rate for the Matriculation which was very similar in character and also gave admission to a college. This went on for many years, and it is only in the last two or three years that the School Final has been given a chance by being held at the various centres. Government has also done something to encourage it by making it a qualification for public service. Even now it is not so popular an examination as the Matriculation, and Mr. Selby told the Commission that it was an examination that had been entirely discredited. Witness does not agree with this view. The examination is improving every year. There is, however, no object in having these two examinations, for one could be made to serve perfectly well the purpose of both. The combined examination should consist of four subjects, namely, English, Vernacular, Arithmetic, and the History and Geography of England

and India. These are subjects which every boy, whether he is to be a clerk in an office or to take a degree, should know. Such an examination would answer perfectly well, provided it were conducted in a really sensible manner. For instance, if the English paper is a sensible and thorough test in English, instead of being a ridiculous attempt to extract from boys replies on every kind of difficulty in grammar, and if the Arithmetic test is a sensible test instead of being, as now, an attempt on the part of the examiner to show what extraordinary problems he can set, things of no use to people in any walk of life whatever; and if the vernacular is confined to translation from the Vernacular into English and from English into the Vernacular; and if the History and Geography papers are sensible papers. After passing this examination a boy can go out into the world. If he wishes to enter a college he should pass a further examination in English and a classical language.

In taking up the School Final the intention of the University was to make the Matriculation a purely entrance examination and to divert from it those candidates who used it as a means of entrance to the public service. Dr. Mackichan enquired whether one of the main causes of the failure was that the matriculation certificate was accepted along with the School Final for entry into Government service, and that in some districts only matriculation men were accepted and in others only school final men. The witness replied that the main cause of the failure was the holding of the examination only at Bombay.

The further test in English might consist of an unseen passage and perhaps a few good questions in grammar. It would be an advantage to have an oral test, but that would probably be impossible. If there were 3,000 candidates, it would be a serious matter to give each of them even 5 minutes.

Mr. Selby said that boys who come to college can at the end of ten days understand lectures well. If a boy brought up under native school masters is able to understand and follow lectures at the end of ten days, he must have been very well educated indeed, and greater praise could scarcely be given to our high schools. Witness knows, from experience as an Inspector of nearly 25 years' standing, that when a new Inspector goes into a school, his voice and manner not being familiar to the children, they take a little time before they understand him, not only in native schools, but also in the European schools at Bombay. If an Inspector were to go into one of the European schools here, and if his style were at all rough or quick, he would find that he would get no answer at all from the children. They get frightened and cannot answer questions. Much more is this the case when an Englishman goes to a native high school. Of course all students who pass the Matriculation are no doubt not fit to listen to lectures, but on the whole the Matriculation qualifies boys fairly well to attend a college. Witness has not heard of any complaints in the five years he has been Director. It would be very easy to make the test rather harder if there were a combined examination followed by a University Entrance test.

The first part of the examination should be conducted by the Department. The University might, if it pleased, lay down its own tests, but it would save a great deal of trouble if the Department undertook both parts. The Department would have its own men at its disposal and the University would not be losers if they charged a fee—a gold mohur—to everybody who matriculated. The examinations should be held at convenient centres.

If it is necessary that students should know something of Euclid and Algebra before going to college, elementary mathematics and science might be formed into a group for the second part of the examination. They might be taken either as an addition to, or an alternative for, the other subject.

Mr. Pedler enquired whether it would not be possible to hold a Schools Final and then at a subsequent period a University Matriculation Examination for the purpose of finding out whether a boy has a sufficient knowledge of English to profit by University teaching and for the purpose of testing his knowledge of a second language and mathematics. Witness thought it would not be necessary to prolong the examination in this way. If the candidate has

a proper knowledge of the preliminary four subjects, he will be very nearly fit to enter a college.

The present system under which there is no recognition of schools by the University, and candidates are allowed to go up from private tuition, is wrong.

Recognition of Schools.

Mr. Justice Chandavakar said that the matter was under the consideration of the Syndicate, but that it would be rather difficult to say that no boy shall go up for the Matriculation who had been educated by private tuition.

In reply to Mr. Hewett, witness said that he would so restrict the number as to allow of a rule that only those who deserve to go up without school education

English and Vernacular in Schools.

should be allowed to do so.

There is a good deal of misapprehension as to the study of vernaculars. In the Bombay Presidency before a boy can begin to learn English he has got to go through the primary school in four standards in the vernacular. That is to say, that for five years he studies his vernacular before he is allowed to begin to learn English. Then he goes to the Anglo-Vernacular School where for three years English is merely taught as a second language, and Mathematics, History and Geography are taught through the medium of the vernacular. So that during eight years he is learning the vernacular continuously, and during the last three of these years he is learning English as a second language. Then he begins the high school course in which English is the medium for instruction in the different subjects. But even during the high school course he still goes on studying his vernacular, in so far that he does vernacular translation even though he takes up a classical as his second language. Six is approximately the age at which a boy begins the eight years of his study through the medium of the vernacular, so that he is 13 to 14 when he begins to learn through the medium of English. The High School course lasts four years.

Boys often continue their vernacular studies up to the fifth and even the sixth standards before entering the High School. A boy learns his English quicker after being properly grounded in the Vernacular. Witness had not observed any difference in the careers of boys who had and had not gone in for this longer vernacular education. It is no doubt an advantage.

The University might institute a degree in teaching provided a satisfactory College of Pedagogies was first established.

Instruction and degree in teaching.

A training college for secondary teachers is an urgent need apart from any idea of degrees, at this moment the primary are better than the secondary teachers. Although the secondary teacher may be a graduate he knows nothing of education and learns at the expense of his boys, whereas a primary school teacher has been one, two or three years in a good training college where he is taught the science and practice of education. There are four large colleges of this class and one minor one. A primary teacher takes the boys for the first five years, and a secondary teacher for the next three years.

There are no University regulations controlling the transfer of students from one college to another, but the colleges are bound by the grant-in-aid rules of the

Inter-Collegiate Rules.

Government. There is nothing very wrong about the migration of students from one college to another, at the same time the position may not be altogether satisfactory. No Dakshina Fellow should be allowed to transfer his Scholarship for one college to another without permission. The University should have some authority in the matter of transfers, and the question ought to be looked into.

The cost of the Elphinstone College for 1900-1901 was R79,273 (page 9 of the subsidiary form in the Director's report). The cost of the Deccan College was R64,345. The fee receipts of the Elphinstone College amounted to R34,476, and the fee receipts of the Deccan College to R13,320. The Elphinstone College has R13,204 from endowments, the Deccan College only R105. Therefore whilst the provincial cost of the Elphinstone College in 1900-1901

Cost of the Elphinstone and Deccan Colleges.

was R23,611, the provincial cost of the Deccan College amounted only to R47,508. Even making allowances for the endowments the Deccan College costs very much more, because the number of students is not so great and the fees are very much less. In the Elphinstone College the fees are R120 a year and in the Deccan College only R80. There are special reasons for this. One is that the Deccan people are poorer than people in Bombay, and another that the Department tried to raise the fees in the Deccan College to R100 a year, but in consequence of a great petition made to Government they were again reduced to R80.

On the 31st of March last the total number of students in the Elphinstone College was 300, and in the Deccan College 176. The figures are to some extent abnormal because of the plague. The reason that no fees are charged to students for the M.A. degree is probably because they do not get regular tuition.

The best University candidates have a better chance of getting good University degrees and Government appointments under Government than the inferior ones. There have only been two Provincial competitive examinations, one was held last year and the other two years ago, and in both cases the results were in striking agreement with the results of the University Examination, that is to say, the best men out of the University got the appointments. In the ordinary distribution of patronage it has been the custom for the authorities who employ graduates to look upon them as graduates merely, and not to enquire whether a graduate has taken a first class or what his marks were. They think that all graduates are equal.

Many people come to the University merely in order to get into Government employment. One could not get a much better test of a man's general education than by means of a degree, and therefore the Government may safely in the first instance take a graduate as more properly fitted to be employed than a non-graduate. This use of the University has not interfered with its work except as regards the Entrance Examination.

Witness does not approve of the study of law being an optional subject in the B.A. course. It saves one year of study for those students who intend to proceed to the LL. B., but at some expense to the efficient working of the University.

There is a certain amount of cramming in every school, and this will be the case until there are more intelligent teachers. In this country the seeds of cram are sown in very fertile soil. The English boy hates to commit anything to memory, whereas the native of this country, being more studious, will learn a very great deal by heart. The real remedy for cramming is sensible examinations and trained teachers in schools. Even for advanced examinations people will cram all the world over. Candidates cram for the Indian Civil Service; witness crammed for his degree. At a certain period there are certain things that the candidate must commit to memory, and he must put on a spurt and try and extend his mind to grasp a large number of matters at once. When the examination is over and the strain removed, much that is learnt in this manner fades away.

In colleges there may be a tendency among some Professors to be more mechanical in their teaching than they used to be, but witness has not much experience in this matter. As regards schools, the teaching has distinctly improved, and many High Schools are in a very different state to what they used to be five and twenty years ago. On the whole there are better classes, taught by more educated men, and of late years these educated men have begun to pay some attention to the theory and practice of teaching. Departmental examinations have been instituted and no man can be confirmed in the service until he has passed this examination. For several years the Department has been drawing the attention of High School headmasters to books on education and to newspapers published in the interest of education. The system of inspection has also been improved. An Inspector now goes to a Government High School and stays there for two or three days hearing lessons given. He

discusses with the teachers and with the Headmaster the weak points in the school, tests for himself how the work is being done in the various classes, and gets far greater insight into the work of the school than when, under the old system, he assigned so many marks to each boy for English and so on. All that has tended to raise the tone of schools. The aided schools generally are very nearly as efficient, and quite as efficient in many cases, as the Government schools.

Witness does not endorse the opinion expressed by some witnesses that the University product is inferior to that of 20 or 30 years ago. There are always certain men who spring up and become prominent, such as the late Mr. Justice Ranade and Mr. Telang. Then people point to them and say: "look at the scholars of former days." The best young men of to-day will in a like manner exhibit prominent qualities. Considering that the University has turned out one senior and two high Wranglers within the last three years it has not very much reason to lament about the quality of its graduates. On the whole the graduates of this University are quite fit for the positions they have to fill in after life. They are well-mannered and well-educated, and make excellent public servants.

WITNESS No. 30—DR. MACDONALD, Professor of Biology, Elphinstone College, and Registrar of the Bombay University.

About one-third of the candidates who go up for the Entrance Examination are private students. They are much less successful in passing than those who go up from schools. It is very desirable that there should be some change in the present rules.

The election of fellows leads to a great deal of canvassing. It has become an expensive affair. Witness could not give any idea of what the expenses amount to. Charges are incurred in postage and other incidents of canvassing. Carriages and posters are an item, but they are not often used in University Fellowship elections. Electors resident in Bombay have to come to the University to vote. The University has not taken any notice of the canvassing.

About 1,000 candidates go up for the School Final. The matriculation has varied from 3,000 to 3,600 during the last five years. A very small proportion of the candidates go up for both. During the present year the expenses of conducting the School Final have exceeded the fees. It would be no loss to the University to give up this examination.

The places in which candidates are examined are very far from satisfactory. An examination hall or building is much needed. At present candidates are examined in *mandaps*, temporary buildings made of bamboos.

The examiners decide where practical examinations are to be held. They choose a place where they can have the convenience of a laboratory. The University is not convenient, because appliances and materials have to be brought to it. The fees for practical are higher than the fees for theoretical examinations. There are special fees for the B. Sc.

Ever since the fiasco that took place 15 years ago, the system adopted has been to print the papers on the day they are set. They are taken to the Government Central Press, where the printers, compositors, etc., are shut in, and no one is allowed in except the examiners. In the case of examinations in mofussil centres the printing of the papers is done synchronously. After prints are taken the type is broken up. Centres of examination are fixed, having regard to whether there is a printing press or not. The six copies for the centres are sometimes typewritten and sometimes written by hand, but in either case the work is done by the examiner himself. The papers are taken to the press by the Superintendent or sent by special messenger in a box with a Chubb's lock and the key is sent in a separate packet sealed and registered.

Since these precautions have been taken, there has been no reason to suspect anything wrong.

After the examination the marks are brought to the Registrar's office and tabulated there and the results declared by him at a meeting of the examiners who check the figures. If any slip is made, it is checked at the meeting.

Marks.

There is the following special instruction about grace marks: "The Syndicate have decided that the system of gracemarks should be done away with. Examiners who are colleagues in marking are to meet and consider before finally sending their marks to the Registrar, whether in any particular cases candidates should or should not pass in any subjects, as the final decision rests with them."

In cases of failure to reach a particular total by a fraction only, the fraction is made into a round figure so as to pass the candidate. When a candidate has failed in one subject only, but in the total number of marks has attained the second class aggregate, a vote of two-thirds of the examiners present at the meeting may allow him to pass. That is either a rule passed by the Senate, or part of the instructions which issue to examiners from the Syndicate. The number of those who get the privilege of this rule has been very small; in some years none at all. Witness has not known of a case in which the indulgence has been refused.

The library has just been re-arranged and printed catalogues issued. (Witness presented copies to the Commission.)

The Library.

The library is available for the use of Fellows and persons recommended by two Fellows. The library is chiefly used by students who are reading special subjects, such as History or Languages. Two or three students read there every day. Not many Professors use it. Books are occasionally lent out to Fellows or Professors who wish to have them for special purposes.

Witness strongly supports the recommendation that the M.B. degree should be substituted for the L.M.S.

M. B. Degree.

which is not recognized as the equivalent of the home M.B. degree. The course ought to be revised and a higher qualification in Arts required. The L.M.S. should be abolished and the M.B. with higher qualifications required in every case.

महाराष्ट्र न्याय

WITNESS NO. 31—MR. DAVAR, Acting Principal, Law Class, Bombay.

The Government Law School.

For the first LL.B., the average number of students is 150 and for the second 200 a year. First LL.B. students are taught at other places besides Bombay.

All students of the first year attend lectures at the same time. The higher course is divided into 2nd and 3rd year students who have different sets of lectures. The school is an evening school. Many of the students follow various occupations during the day. A better education could be given if the school were a wholetime one. This matter was considered by the Committee which sat on the school and they decided in favour of an evening school. The fees charged are R35 a term. There are two terms in the year. Since 1898 there have been a Principal and four Professors for the 2nd LL.B. classes and a Perry Professor with an assistant for the 1st LL.B. class. The school is self-supporting. The salary of the Principal is R350 and of each of the Professors R300. The salaries are fixed, they do not depend on the fees. The school has had a surplus, which is devoted to giving prizes to students.

Each Professor and the Principal delivers 60 lectures a year. If a 2nd LL.B. student attends all the lectures, he receives 150 hours of instruction a year, for

Defects in the System.

two years. The form of certificate which the Principal has to give to the students is merely one of physical attendance. Whether the student follows the lectures or not is immaterial to the granting of the certificate. Principals of other Colleges have to certify that the students have been of good conduct

and are permitted to present themselves for examination. The Principal and Professors ought to be authorised to hold a test examination at the end of each term in the subject of the lectures, and unless the student shows that he has followed the lectures, he ought not to be entitled to a certificate. At present they cram and take their chance at the University Examination; some go up 8 or 10 times and then pass. Class examinations are held. But out of a class of, say, 200 students only about 15 attend the examinations. There is no time to put questions each day on the subject of the previous day's lectures.

In an evening school it is impossible to give efficient legal education of the nature required by the University curriculum. The text-books are unsuitable and the time for their study is much too short. For the 1st LL.B. the prescribed subjects and text-books are enumerated on page 545 of the Calendar. For these the student has 60 hours' lectures and 50 hours' tuition. For the 2nd LL.B. the text-books recommended are enumerated on pages 545—547 of the Calendar. With very big and difficult books, such as "Smith's Mercantile Law" and "White and Tudor," the student does not know in what he will be examined. Last year many passed, the year before the results were unsatisfactory. One cannot, however, judge the results by the number of applications sent in. Many send in applications who never appear, and if a medical certificate is submitted, the fee is allowed to stand over. In the last examination 261 applied for permission to appear, 45 did not appear, and of the 216 who did appear, 142 passed.

If the Principal had the right of holding school examinations on the subjects of the lectures, and if students were informed that their certificates would be withheld if they did not pass the examinations, then the students would attend to the lectures. Mr. Justice Chandavarkar said that under the existing rules the Principal might do this, putting his own interpretation on the word "attendance." Witness did not think that this was the case. The President considered that the point was arguable. Witness has asked the Director of Public Instruction to put the matter before the University. The Government called for an explanation, through the Director of Public Instruction, as to why the result of the 1900-01 examination was so very unsatisfactory. Witness was asked to send a report, and stated in it the drawbacks in the constitution of the school and the disadvantages under which the Principal and Professors labour. (With the permission of the Director, Mr. Davar sent copies of this report for the use of the Commission.)*

The Principal and Professors have not much to do with the students except in the class room. They invite students who have any difficulties to come to them for further explanation, but very few take advantage of the offer. Except the first LL.B. candidates and some who are reading for the M.A., the Law students have severed their connection with the University. There is a very good Law library open to the students, and a certain percentage of them take advantage of it.

They have no debating or other society. The Government Law School itself is a guest of the Elphinstone College. The school has no strong corporate existence. There is a visiting Committee and the Professors occasionally meet in the Principal's room. Members of the visiting Committee sometimes come into the class room, but witness does not know whether they pay any attention to the lectures.

The evening lectures are insufficient. If the Law School were a day school, there would be more lectures and students would be able to complete their studies for the examinations in a shorter period, say two years. They would not be employed elsewhere and could devote all their attention to the study of law. A great many of the students are now earning their own living. Mr. Justice Chandavarkar doubted whether it would improve matters to convert the school into a day school. It would not be possible to get good wholetime Professors and the cost would be greatly increased. Witness said that he knew that there were objections, but he nevertheless considered that a day school would be much more efficient. There would be fewer students, but they would be of a better class and *bonā fide* students of law.

Students who are going up for the examination read their text-books and work at home. A student could not by learning up a small manual pass examinations such as are held by the University. Students do not read "White and Tudor." Some of the cases in the book are studied and short notes have been published.

* See Catalogue of Miscellaneous Papers.